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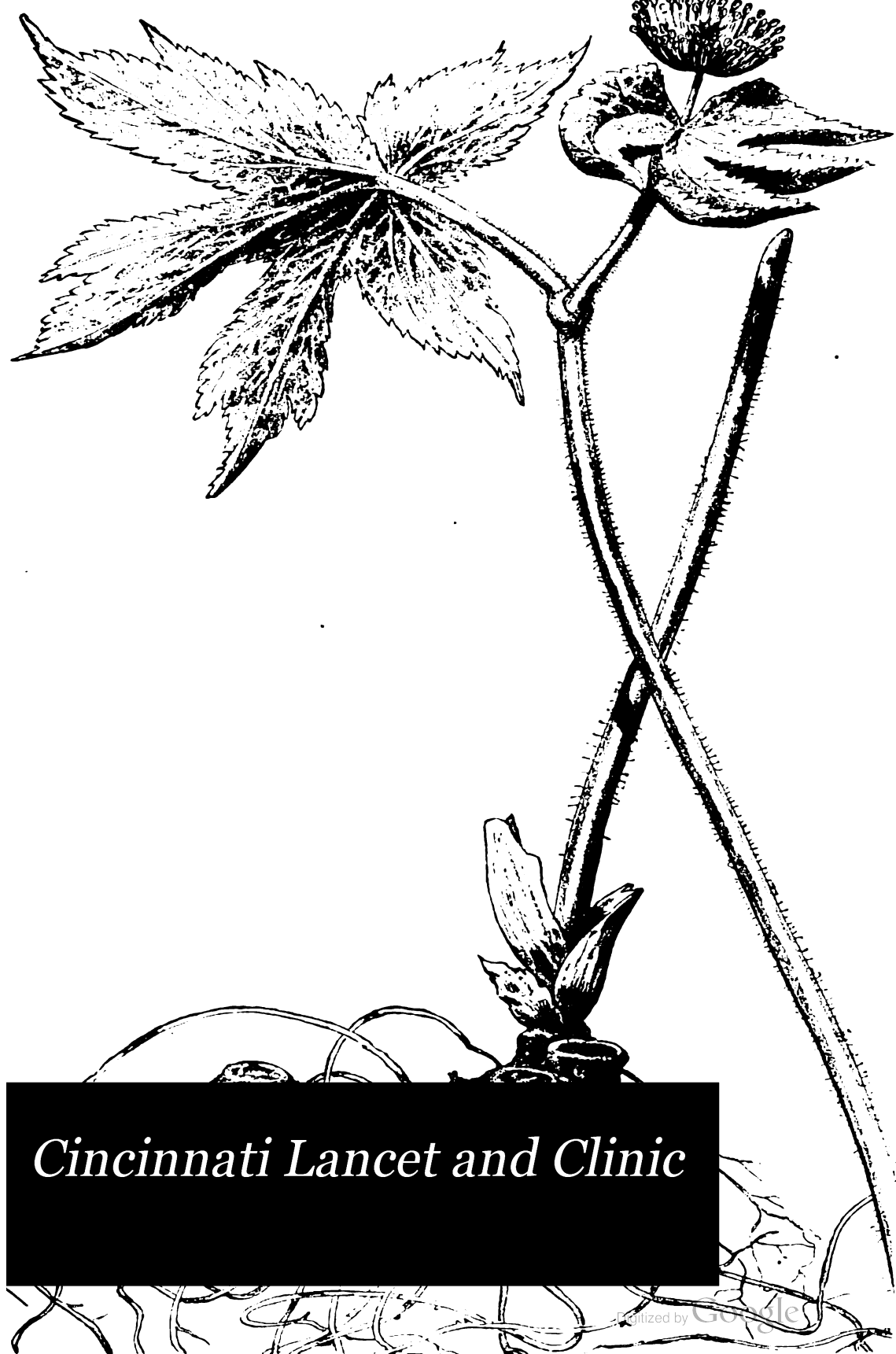
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VOLUME XIII.

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ZENNER, PHILIP, Cincinnati, O.
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INDEX TO VOLUME XIII.

JULY—DECEMBER, 1884.

ABDOMINAL surgery with comments, 209.
 Abortive treatment of soft chancres, 16.
 sores, 669.
 Abscess without cicatrix, cure of, 712.
 Absence of lower end of the rectum with passage
 of feces through the penis, 332.
 Absorbent tow, 460.
 Abuse of medicines, 352.
 A.C.E.—Anæsthetic mixture, 468.
 Acne, acne rosacea, lichen ruber, and severer
 forms of lupus, pathology and treatment of,
 54.
 Action of oxygen on the activity of the lower
 organisms, 145.
 chloroform on the medulla, 183.
 Acute atrophic anterior poliomyelitis of adults,
 198.
 ascending paralysis, 644.
 painful para legia, 303, 734.
 poliomyelitis in the adult, 172.
 rheumatism in a newly-born infant cured
 salicylate of soda, 613.
 Administration of calomel and iodide of potassium
 at the same time, 649.
 Affections of the gum in relation to other dis-
 eases, 712.
 Albuminous diet, 300.
 Albuminuria in strangulated hernia, 58.
 Alcohol on longevity, effect of, 572.
 Alcoholism, treatment, 17.
 Alterations of cortical excitability by cold applied
 to the surface of the brain, 278.
 American public health association, 400.
 Amnesia, particular forms of, 358.
 Amyl nitrate, draught of, 722.
 Anæsthetics per rectum, applications of, 15.
 Anatomy and physiology of the spinal ganglia,
 151.
 Anæmia, reduced iron in the treatment of, 760.
 Aneurism of left ventricle communicating with
 aorta, 12.
 of the aorta, 13.
 Antagonism of drugs, 89.
 between carbolic acid and atropia, 456.
 Anti-epileptic action of bromide of potassium, 176.
 Antipyrin, a new antipyretic, 143.
 Antiseptics, 104.
 progress in, 756.
 Antiseptic incision in hydrocele, 184.
 inhalation, method of conducting it, 19.
 treatment of infectious diseases, 57.
 inhalations in phthisis, 61.
 Atonic dilatation of the stomach, 151.
 Antriprine, 356.
 Antrum of highmore, abscess of, 288.
 Aorta, aneurisms of, 13.
 Aphasia and reflex troubles of childhood due to
 indigestion, 425.
 Apoplectic attacks, remarks on, 713, 722.
 Arsenic in pulmonary tuberculosis, use of, 252.
 Asthma, remedies for, 614.
 Autopsy, the, 646, 731.

BACILLUS culture, 249.
 of the cholera, 314.
 tuberculosis, 285.
 Bacteria on starch, action of, 339.
 Belladonna poisoning, 188.
 BIBLIOGRAPHY:
 An Aid to Materia Medica, Dawburn, 701.
 Atlas of Surgical Anatomy, Henke, 466.
 Auscultation, Percussion and Urinalysis,
 Leonard, 123.
 Beginnings with the Microscope, Manton, 434.
 Brain Exhaustion, Corning, 467.
 Compendium of Organic and Medical Chem-
 istry, Leffmann, 467.
 Courier-Review Call Book and Visiting List,
 Nelson, 612.
 Diphtheria, Croup, etc., Galentin, 468.
 Discovery of the Circulation of the Blood,
 Chapman, 62.
 Diseases of the Heart, Paul, 466.
 Diseases of the Nose, Wagner, 700.
 Elements of Modern Chemistry, Wurtz, 62.
 Excessive Venery, Masturbation and Contin-
 ence, Howe, 123.
 Fat and Blood, Mitchell, 155.
 Formation of Poison by Micro-Organisms,
 Black, 433.
 Gunshot Wounds of the Small Intestines,
 Parkes, 259.
 Handbook of the Diagnosis and Treatment of
 Skin Diseases, Van Harlingen, 434.
 Health Hints to Travelers Sundberg, 123.
 Kentucky State Sanitary Council, 259.
 Laws of Michigan relating to the Public Health,
 436.
 Lectures on Diseases of the Rectum, Wright,
 734.
 Lock-jaw of Infants, J. F. Hartigan, 560.
 Malaria and Malarial Diseases, Sternberg, 699.
 Manual of Chemistry, Simon, 757.
 Manual of Medical Jurisprudence, Hamilton,
 12.
 Manual of Psychological Medicine, Mann, 284.
 Medical German, 155.
 Eleventh Annual Report of the Secretary of
 Michigan State Board of Health, 434.
 Micro-organisms and Disease, Klein, 701.
 Esophagus, Nose and Pharynx, Mackenzie,
 701.
 Physiological Physics, Robertson, 757.
 Post Nasal Catarrh and Diseases of the Nose,
 causing Deafness, Woakes, 284.
 Practical Manual of Diseases of Women and
 Uterine Therapeutics, Jones, 560.
 Principles and Practice of Midwifery with some
 of the Diseases of Women, Milne, 612.
 Proceedings and Addresses at a Sanitary Con-
 vention, 435.
 Proceedings of the Sanitary Convention (In-
 diana), 124.
 Relation of Animal Diseases to the Public
 Health, and their Prevention, Billings, 63.

BIBLIOGRAPHY:

- Report of Trustees of the City Hospital, Boston, 260.
- Special Pathological Anatomy, Zeigler, 734.
- Surgical Delusions and Follies, Roberts, 701.
- Textbook on Medical Jurisprudence and Toxicology Reese, 611.
- Transactions of the American Otological Society, 612.
- Transactions of the Medical and Chirurgical Faculty of the State of Maryland, 467.
- Treatise on Physiology and Hygiene, Hutchinson, 467.
- Biliousness in blood poisoning, 297.
- Black tongue, 61.
- Blindness in facial erysipelas, 60.
- Borax and iodide of potash for the voice, 217.
- Borocitrate of magnesia as a solvent of urinary calculi, 57.
- Boro-glyceride in trachoma, 164.
- in aural diseases, 252.
- Bromoform, bromethyl and bromethyline, effects of, 614.
- Busy life, Prof. Virchow, 369.
- CAMELLIA, 131.
- Camphor inhalations in coryza, Kefir, 497.
- Cancer of the kidney, 651.
- rectum, 712.
- Can locomotor ataxia be cured? 177.
- Carbuncle by compression, treatment of, 226.
- Carcinoma of the peritoneum, 202.
- of the stomach, 635.
- ventriculi, 12.
- Care of the lower limbs and feet, 355.
- Catarrhal laryngitis, 150.
- disease, trephining the frontal sinuses for, 762.
- Cerebral physiology, 89.
- Cerium oxalate in phthisis, 145.
- Cervical sympathetic, paralysis of, 140.
- Children's eyes and books, 293.
- Chlorate of potash and diphtheria, 279.
- Cholera, 79, 104, 131, 192, 265, 572, 611.
- an interpellation of the German Parliament, 315.
- and its bacillus, 95, 314, 344, 387, 428, 494, 510, 554.
- and quarantine, 135.
- and the migration of birds, 217.
- cause of, 645.
- disinfection, 167.
- infantum, 174.
- invasion, prospects of, 195.
- investigations of the European epidemics of 1884, 499.
- precautions, 95.
- price of disinfectants, 107.
- Chorea, various forms of, 277.
- Chromic acid for cauterization in diseases of the nose, pharynx and larynx, 151.
- Chronic irritable ulcer, treated by excision, skin-grafting and pressure, 261.
- of the leg successfully treated, 685.
- Chrysophanic acid, 118.
- Cincinnati Board of Health, 129, 192, 165.
- hospital, 3 cases from medical wards of, 748.
- Circulation of the blood, discovery of, 63.
- Cirrhosis of the liver, classification of, 459.
- Civilization and the teeth, 764.
- Coca leaf and its alkaloid, 743.
- Cocaine, muriate of, 504.
- as an anæsthetic and analgetic for the pharynx and larynx, 660.
- Coccygodynia, 304.
- Colds, treatment of, 554.
- in the head, by cold ablutions of the feet, 103.
- Collective investigation of disease, address on, 267.
- applied to pneumonia, 318.
- Collodion for red and broken noses, 184.
- Color perception, theories of, 216.
- Colotomy, modification of, 308.
- in the treatment of vesico-intestinal fistula, 711.
- Combined diseases of the anterior cornua and lateral columns of the cord, 681.
- Comparative frequency of eye diseases in the white and colored races in the U. S., 216.
- action of the different alkaloids of aconite on the heart, 644.
- Congenital absence of the pupil and malformation of the iris, 628.
- dextrocardica, 158.
- lipoma, 183.
- phimosi as a cause of central and peripheral paralysis, 309.
- Connection between nervous affections and diseases of the nares, 145.
- Copper and cholera, 249.
- Cornea, ulcer of, 17.
- Corrosive sublimate gauze, 121.
- for venereal warts, 586.
- Conservative factor in minor gynecological practice, 125.
- Consistency, 312.
- Consumption, treatment of, 340.
- Contribution to the physiology of the phrenic nerves, 88.
- Cremation, 554.
- Crematorium, discovery, 80.
- Creosote in diseases of the air passages, 175.
- Cutaneous therapeutics, remarks on, 243.
- Cystitis, 152.
- pathology of, 306.
- DECUSSATION of nerves, 457.
- Dental caries, 259.
- Derangements of the heart, nervous, 280.
- Desirability of establishing bacteriological laboratories in connection with hospital wards, 588.
- Des Synovites Tongueses Articulares et Tendineuses, 558.
- Destruction of infectious germs by heat, 402.
- Detached retina, mechanical treatment of, 215.
- Development of gray substance of spinal cord, 92.
- Diabetes, 621.
- Diagnosis of mitral constriction, 253.
- of pleuritic exudations by the tuning fork, 279.
- Diagnostic value of the bacillus tuberculosis, 559.
- Diarrhœa in children, form of, 118.
- and cystitis, naphthaline in, 513.
- Diet, albuminous, 300.
- influence of on headaches, 295.
- Differential diagnosis of simple and tubercular meningitis, 93.
- Difficult labor, 444.
- Dilatation of the stomach, 235.

- Diphtheria, etiology of, 582.
treatment of, 725.
prophylactic value of the vapors of the essence of turpentine in, 658.
- Disease germs, 536.
- Diseases of the eye iodoform in, 109.
- Disease of joints, gangliar, 327.
- Disposal of refuse in cities, 96.
- Disseminated sclerosis, 253.
- Does death sting? 366.
- Double aneurism of the common carotid arteries, cured by ligating both arteries, 463.
- Draught of amyl nitrite, 722.
- Duboisia, poisoning by, 149.
- Dysentery with bismuth per rectum, 613.
- Dyspeptic neurasthenia, 758.
- Dystrophia and of spontaneous fall of the nails in progressive paralysis, 303.
- EARLY operation in tuberculosis of lymphatic glands, 586.
- Earth our last resting place, 369.
- Easy application of the midwifery forceps 121.
- Eczema during childhood, 138.
- Education of incurably deaf children, 250.
- Effects of removal of the thyroid gland, 514.
- Electrical neurosis, 193.
- Eligibility of homeopathic graduates to membership 553.
- Embolie infarction of muscles, 585.
- Encyclopedia of Medical Wit, Humor, and Curiosities of Medicine. 193.
- Etiology of cancer, 365.
of diphtheria, 582.
- Epileptic automatism, 60.
- Epilepsy, osmic acid in, 359.
- Epileptiform neuralgia or the so-called incurable facial tic—treatment, 179.
- Epithelia, cancer, treatment of, 183.
- Epithelioma of the anus and lower part of the rectum, treatment 258.
- Ergot in the treatment of constipation, 669.
- Erysipelas of a phlegmonous character, 9.
- Excellent advice regarding the use of the catheter, 234.
- Excision of the rectum, 695.
- Exophthalmic goitre, 307.
- Exploring needle folly, 404.
- Experimental production of typhoid fever, 359.
- Excision of the fascia in Duuytren's contraction, 513.
- Extra-uterine pregnancy, 17.
- Extirpation of goitre by the elastic ligature, 460.
of the kidney, Bilioth, 148.
of the lachrymal sac, 164.
of the lungs, 121.
of the thyroid gland, 466.
- FASCIA in Duuytren's contraction, excision of, 513.
- Febrile lassitude, 456.
- Femoral artery, ligation of for elephantiasis 407
hernia. perforation of a diverticulum, 32.
- Fibrinous pneumonia, pathology of, 558.
- Fibrillary tremor of the tongue, 144.
- Fifth International Congress of Hygiene, 460.
- Fluorides in medicine, 257.
- Follies of quarantines 580.
- Follicular pharyngitis, 69,
tonsillitis. 677.
- Food adulterants, 538.
- Foreign body in the interior of the left eye, 716.
in the iris and anterior chamber, 163.
- FOREIGN CORRESPONDENCE:
Birmingham, Eng. 754.
Göttingen letters, 263, 285, 442.
- Form of diarrhoea in children. 118.
of numbness, chiefly of the upper extremities, 40.
- Fracture of the skull, 127.
- Frujahr-catarrh, 650 690.
- Functional independence of the two cerebral hemispheres, 580.
- GALL bladder, opening of the, for calculi, 459.
stones, two cases of, 690.
- Galvanopuncture in aneurism of the aorta. 336.
- Gangliar disease of joints, 327.
- Gangrene of lung, drainage, recovery, 733.
- Garbage disposal, 401.
- Gastro-enterostomy, 637.
- Gastrostomy 694.
for hair tumors, 94.
- General paralysis, 675.
- Germs, 502.
- Germ theory consequent not precedent, 185.
- Globus hystericus, pyrethrum for, 582.
- Gonorrhoea treatment, 445.
formula for, 377.
- Gossypium, extract of, 463.
- Green leaves of the datura stramonium in painful joint affections, 396.
- Guaic in the treatment of acute sore throat, 681.
- Guarana, 247.
- Gunshot wound of the stomach, successful laparotomy, 119.
- Gynecological uses of hot water, 336.
- HÆMATEMESIS, mechanical treatment of, 335.
and melæna, obscure case of, 439.
- Haste and waste, 171.
- Hay fever, treatment, 82, 242.
- Hemichorea, localization of, Greiff, 681.
- Hemianæsthesia, 682.
- Hemophthisis, treatment of, 302.
- Hemorrhoids, treatment of, 208.
- Hemorrhage, arrest of, 363.
- Hereditary progressive muscular atrophy, 301.
- Hiccough. 120.
- Hints for hot weather, 96.
- Homeopathy becoming extinct, 33.
- How to prepare corrosive sublimate gauze, 121.
- Hydrastis canadensis, 656.
- Hydriodide of hyoscin compared with atropine and extraction of, 14.
- Hydrocele, antiseptic incision in 184.
- Hydrochlorate of cocaine in obstetric practice, 552, 656.
- Hyoscyamus, 14.
- Hypodermic injections of amyl followed by epileptiform convulsions. 307.
of anthelmintics, 93.
- Hypophosphites in phthisis, 119.
- ILLUSTRATION of the value of jury trials, 218.
- Imbecility, 97.
- Important points in connection with the surgery of the urinary organs, 23.
- Impotence in the male, 620 690.
in food, 197.
- Index Catalogue of the Surgeon-General's Office, 509.

- Improved method of applying chrysophanic acid
 Infant feeding and summer diseases of children, 245.
 Infantile paralysis. recovery, 643.
 Infectious diseases, antiseptic treatment, 57.
 germs. destruction of by heat, 402.
 Infectiousness of the air in rooms occupied by phthisical persons, 371.
 Inflammation, general and local treatment of, 567.
 of the pharynx, 606
 Influence of the magnet on the animal organism, 58.
 of diet on headache, 295.
 of tobacco smoke on the human and lower organisms, 465.
 of tuberculosis on conception and pregnancy, 508.
 Influenza during childhood, 299.
 Infused beverage, action of, on peptic digestion, 86.
 Ingrowing toe nail 398, 426.
 Inhalation of nitrogen in pulmonary diseases, 86.
 Injection of corrosive sublimate into the inguinal glands and into the spleen in syphilis, 28.
 Insufficient urination in newborn infants, 116.
 Intercostal muscles in respiration, action of, 254.
 International collective investigation of disease, 492.
 sanitary police regulations and exotic pestilential maladies, 159, 190.
 Intermittent pulse, 276.
 contractions of the uterus in the diagnosis of pregnancy and its complications, 498
 Inunction as a febrifuge, 85.
 Iodoform in diseases of the heart, 16.
 of the eye, 109.
 Iodide of potassium in pneumonia, 117.
 Is the extirpation of the thyroid gland a physiologically allowable operation? 465
 JEQUIRTY question, the, 18, 59, 81, 110, 251.
 KOCH and Pasteur, 78.
 Koumiss, 4.
 LEG ulcers. treatment of, 398.
 Lesson to be remembered, 105.
 Leucoderma, syphilitic, 303.
 Liberating the ring finger in musicians, 749.
 Ligation of the common femoral artery, 181.
 Litholopaxy, 695.
 Liver spots, 144.
 Localization of hemichorea, Grief, 681.
 Locomotor ataxy occurring in an individual 70 years of age, 6.
 Loss of hearing from mumps, 387.
 Lupus vulgaris, 256.
 treatment of, 678.
 MALÆNA, obscure case of hæmatemesis and, 439.
 Malt extracts as food, 735.
 Making a squint to improve vision, 207.
 Masked septicæmia, 513.
 Mastoid process, opening of, 764.
 Mechanism of the downward displacement of the clavicle following fracture of its shaft, 325.
 Medicines, abuse of, 352.
 and medical men in Denmark, 107.
 in the past and present, 373.
 Membranous and diphtheritic conjunctivitis, 252.
 Medulla oblongata in its relation with sexual disorders, 117.
 Mental therapeutics, 734
 Mercury in pleurisy, 177.
 Metallic bodies in the eye, 109.
 Metaplasia, address on, 322.
 Meteorological medicine of Cincinnati, notes on, 530, 562, 596.
 Metrorrhagia, treatment of, by Savin and Rue, 177.
 Microscopic changes in a tattooed cornea, 141.
 Microcephalous girl, 589.
 Mineral springs of Adams Co., 100.
 waters in times of epidemics, 250.
 Minnesota medical practice act, 251.
 Moderate drinking and teetotalism, 644.
 Modes of preserving specimens for microscopical examinations, 337.
 Modification of colotomy, 308.
 Morphine in the vomiting of pregnancy, 337.
 Morphism and pregnancy, 118.
 Mortality from pulmonary consumption, 591.
 Mouth respiration, 65.
 Mud baths, 405.
 Mullein leaves in phthisis, 396.
 Multiple degenerative neuritis, 680.
 Murate of cocaine, 504, 552, 665.
 of ammonia, 358.
 Muscular atrophy with lichen ruber, 265.
 NAPHTHALINE in diarrhoea and cystitis, 513.
 National sanitation, 698.
 Natural production of malaria and the means of making malarious countries more healthy, 321.
 Nature of the jequirity poison, 55.
 Nephrectomy after vaginal hysterectomy, 95.
 Neoplastic diathesis, address on, 333.
 Nervous derangements of the heart, 280.
 diseases, 437.
 discharge, 702, 737.
 Neuralgia in diabetes, 176.
 Neurasthenia, dyspeptic, 758.
 Neurosis, electrical, 193.
 New nervous disease, 77.
 radicalism, 335.
 sign in the diagnosis of cancer of the stomach, 426
 symptom and a new theory of locomotor ataxia, 575.
 Nitrite of amyl, 224.
 Normal relative heights and weights of individuals, 371.
 OAKUM as a surgical dressing, 514.
 OBITUARY:
 Cohnheim, Prof. 340.
 Culbertson, Mrs. S. P., 265.
 James, Dr. L. A., 156.
 Thomas, Dr. Jas. G., 742.
 Obstetrics and diseases of women, 152.
 Ogilvie's handy book, 509.
 Oil of cloves to remove the antipathy to Chloroform, 464.
 of white birch bark, 171.
 Onion as an antidote to stings and bites, 339.
 Operation for hallux valgus, 121.
 for cataract, 561.
 Operative opening of pulmonary cavities, 459.
 Opium smoking as a therapeutic remedy, 138, 397.

Ophthalmic migraines, treatment of, 164.
 Oral hygiene in the new-born, 116.
 Origin of general miliary tuberculosis, 84.
 Osmic acid in epilepsy, 359.
 Outward rotation of the lower extremities, 258.
 Ovariectomy at three months of age, 551.
 in a child eight years old, 215.
 in cows, increasing the supply of milk, 168.
 Over pressure in elementary schools, 462.
 Oxalic acid and the oxalates in medicine, 465.
 Oxaluria, 683.
 Oxygen on the activity of the lower organisms, 145.
 Ozaena treatment, 15.
 PARALDEHYDE as a hypnotic, 15.
 and acetal in the treatment of mental diseases, 682.
 Paralysis of the cervical sympathetic, 140.
 acute ascending 644.
 Parenchymatous injections of turpentine in malignant growths, 679.
 Partial epilepsy by encircling blisters with transfer of aura, 120.
 Pathology and treatment of acne, acne rosacea, lichen rubber, and severer forms of lupus, 54.
 broncho-pneumonia, 665.
 cystitis, 306.
 inflammation, 531.
 obesity, 318.
 Pelletierine in the treatment of tapeworm, with the report of seven cases, 746.
 Pemphigus of the conjunctiva, 386.
 Perforating ulcer of the foot, 237.
 Permanent pills of permanganate of potassium, 226.
 Perspiration of the feet 340, 343.
 Pessary in fractures of the lower jaw Hodge's, 150.
 Peyrussion on the treatment of cholera by boracic acid. 251.
 Pharmacology in cantharidin, 198.
 Phenic acid as an injection to abort buboes, 183.
 Pheno and gaulthero, 111.
 Phlebitis complicating rheumatism, 117.
 Phosphorus in tubercula disease, 90.
 Physiology of the vaso-dilator nerves, 143.
 Pilocarpine in ascites, 233.
 Placenta prævia, 311.
 Plaster posterior splint in the treatment of fractures of the leg, 146.
 Pleurisy in diseases of the heart, 710.
 Pleuritic exudations by the tuning fork, diagnosis of, 279.
 Pneumonia, Donovan's solution in, 756.
 Pneumothorax, 98.
 Points concerning the nature and contagion of cholera, 169, 193.
 Poisoning by duboisia, 141.
 from Mrs. Winslow's soothing syrup, 654.
 from veratrum viride, 320.
 Poisons contained in choleraic alvine discharges, 106.
 Polarization of the human body and by electrodes, 223.
 Poliomyelitis, supposed case of, 341.
 Polyclinic of Berlin, 19, 131.
 Posterior spinal sclerosis with special reference to a syphilitic origin, 232.

Porrigo decalvans, 223.
 Practical sanitation, 133.
 Practice of medicine in France, 104.
 Premonition of death, 367.
 Prevention of cholera, 133, 217.
 Professional lipoma of prostitutes, 181.
 Progressive muscular atrophy, hereditary, 301.
 Prolonged administration of the bromides in epilepsy, 144.
 Prospects of a cholera invasion, 195.
 Protracted gestation 336.
 Pruritis ani, 397.
 vulvæ, 510.
 Pseudo-journalism, 436.
 Ptomaines, 280.
 Puerperal mania, two cases of, 534.
 Pulse wave, velocity of, 354.
 Pupillary symptoms in general diseases, 141.
 Purpura, 324.
 Purulent inflammation of the middle ear, 157.
 peritoneal exudation simulating ascites cured by paracentesis, 712.
 Putrefaction does not kill the tubercle bacillus, 357.
 Pyrethrum for globus hystericus, 582.
 Pyroligneous acid as a parasiticide, 91.
 Pyschiatric, treatise on, 509.
 QUARANTINE, follies of, 586.
 Query 245.
 Quinine steadily falling, 245.
 RANUNCULUS, 39.
 Rapid cure of soft chancres, 235.
 Recent advances in the anatomy of the nervous system, 271.
 Rectal anæsthesia, 130.
 Refraction of the eye, 501.
 Refusal of food in the insane, 675.
 Regulation of diet, 335.
 Relation of mental diseases to alimentary disorders, 255.
 Regulations governing the height of houses, 766.
 Relief of pain in the side in phthisis, 225.
 Remedies for asthma, 614.
 for rhus poisoning, 91.
 Reminiscences of the cholera epidemic of 1833, 218.
 Removal of the thyroid gland, effect of, 514.
 by the magnet of foreign body in the vitreous, 293.
 of eyeball and conjunctiva, 60.
 of astragalus for fungous osteo-arthritis, 94.
 of naso-pharyngeal tumors, 231.
 Renal circulation, 165.
 Resolvent action of calomel, 661.
 in minute doses in the treatment of pneumonia, 613.
 Resorcin as an anodyne, 253.
 Respiration of leaves in darkness, 129.
 Result of swallowing needles, 16.
 Retained placenta in 535.
 Rheumatic hyperpyrexia, 176.
 Rodent ulcer in its relations to epithelioma, 200.
 Round-celled sarcoma of the mesentery in a boy aged five, 502.
 SALICYLIC acid in food, 197.
 as a prophylactic against cholera, 513.
 in the treatment of lupus, 92.
 Sarcoma of the testicle, 10.

- Sanguineous cyst of the neck, 1.
 Scalp wounds, treatment of, 181.
 Sciatica, sign of, 297.
 by congelation, treatment of, 581.
 Scrofulous buboes, treatment, 94.
 cervical glands, by excision, treatment of, 334.
 Secondary degeneration in the spinal cord, 676.
 Sclerotic acid in epilepsy, 93.
 Sensational journalism, 292.
 Septic pneumonia of new-born children, 225.
 Septicemia in a child from puerperal infection, 225.
 Sewage disposal, 372.
 in Canton, 96.
 Shellac spirits for hanging paper, 404.
 Short-sightedness in schools 234.
 Sick headache, treatment of, 512.
 Simple remedy in diarrhoea, 253.
 SOCIETY REPORTS:
 Academy of Medicine, 6, 75, 341, 378, 407, 531, 567, 606, 635, 661, 722.
 American Gynecological Society, 412, 449, 474.
 American Public Health Association, 515, 536.
 Butler County Medical Society, 725.
 Chicago Medical Society, 243, 289, 317, 453, 694.
 Cincinnati Medical Society, 445, 469, 534, 690, 718.
 * Illinois State Board of Health, 46, 79, 639.
 International Medical Congress, 673.
 Michigan State Board of Health, 101.
 Mississippi Valley Medical Society, 217, 313.
 Odontological Society of Great Britain, 53.
 Philadelphia Pathological Society, 10, 103, 424, 665.
 Soft chancres, abortive treatment of, 16.
 sores, abortive treatment of, 669.
 Some of the work which cholera has done, 292.
 Sore throat in children, 143.
 Specimens from a case of resection of the humerus, 103.
 Splastic spinal paralysis, 680.
 Sporadic cholera, 661.
 Sprains, 94.
 treatment of, by the elastic bandage, 258.
 Statistics Nairne, on, 765.
 St. Louis Medical and Surgical Journal, 79.
 Strangulated hernia, albuminuria in, 58.
 femoral hernia, 457.
 Stretching the spinal cord, 182.
 Subcoracoid dislocations, reduction of, 236.
 Sublimate intoxication following an operation, 464.
 Suggestion concerning the treatment of acne and acne rosacea in the male, 359.
 regarding cholera for the use of the public, 133.
 for the easy application of the midwifery forceps, 121.
 Sulphate of calcium to prevent suppuration in smallpox and chickenpox, 91.
 quinia on the blood, action of, 618.
 Sulphide of calcium in scabies, 491.
 Sulphuric acid in the treatment of lupus vulgaris, 145.
 Suppurative arthritis, its conservative treatment, 686.
 hepatitis, 582,
 Suit against a dentist, 509.
 Sunstroke, 134.
 Surgical and orthopedic treatment of infantile paralysis, 360.
 interference in affections of the brain, 397.
 nail, 612.
 nursing, 329.
 treatment of gall-stones, 183.
 uses of iodoform 182.
 Sympathetic neuro-retinitis, 81.
 ophthalmia, 19, 110.
 Syphilis, treatment of, 228.
 TALL guessing, 77.
 Tapeworm, pelletierine in the treatment of, 746.
 Tariff question, 193.
 Tendo-achilles, wound of, 658.
 Tertoma of the pituitary glands 366.
 Theory of cholera or two theories of the mode of advance of cholera, 245
 of color preception, 216.
 Therapeutics, mental, 734.
 of horizontal position, 359.
 Thermo-cautery in the treatment of anal fistulae, 93, 400.
 Thoracentesis, 39, 128.
 Tobacco amblyopia, 252.
 Torsion of large arteries, 455.
 Total retention of the placenta, 226.
 Tow, absorbent, 460,
 Transmission of cholera by railway travel, 121.
 Trephining the frontal sinuses for catarrhal disease, 762.
 Tubercle bacilli in local scrofulous affections, 325.
 Tuberculosis. Influence of on conception and pregnancy, 508.
 Tumors of the cerebellum and phenomena associated herewith, 364.
 Typhoid fever, specific treatment of, 756.
 ULCERS of the cornea that have a tendency to perforate, by means of a conjunctival flap, 108.
 treatment of, 28, 177, 386.
 Unique case of poliomyelitis anterior acuta of the adult, 173.
 Unusual accident, 168.
 Urinary disturbances in diseases of the nervous system, 580.
 VALERIAN in the treatment of superficial wounds, 365 610.
 Various forms of chorea, 277.
 so-called antiseptics, value of, 215.
 Velocity of the pulse wave, 354.
 Venereal warts, corrosive sublimate for, 586.
 Verdure clad, 403.
 Vesico-intestinal fistula, colotomy treatment, 711.
 Vinegar for diarrhoea, 288.
 WATER in the dietary of young children, 196.
 Washington obstetrical and gynecological society, 493.
 Why negroes are black, 340.
 Word deafness, 142.
 Work which cholera has done, 292.
 Wounds of the scalp, treatment of, 189, 500.
 YELLOW oxide salve, 129.

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Original Articles.

SANGUINEOUS CYST OF THE NECK.

A Paper read before the Ohio State Medical Society, June, 1884.

By JOSEPH RANSOHOFF, M.D.,
F.R.C.S., Eng.

Professor of Descriptive Anatomy and Clinical Surgery, Medical College of Ohio.

The investigations of the last half century have accomplished much towards elucidating the pathology of cysts in general. Yet there remain those of one region which are still largely enshrouded in mystery and concerning which there are many dissenting views. I refer to cysts of the neck. In this state of affairs every contribution to the literature of the subject may be of some value. Therefore, I beg to present the following case, and to call attention particularly to the result which followed operative interference.

CASE. Rebecca L., æt. 34, single, referred to me by Dr. N. C. Dill, of Riley. The patient belongs to a healthy family and has always lived on a farm; states that in her childhood she suffered from scrofula; she can give no details as to its particular manifestations. Fourteen years ago, when she was twenty, she observed a growth on the right side of the neck, situated, as nearly as she can remember, midway between the angle of the jaw and the sternum. From its first appearance, the tumor gradually increased in size without producing unpleasant symptoms. Only during the last year has she observed an inability to lie on the left side, since the pressure on the trachea produced very decided dyspnoea.

From the accompanying illustration it will appear that the growth situated on the right side of the neck extends from the mastoid process to within one-half inch of the sternum. Somewhat larger in size than two fists, it is distinctly pyriform in shape



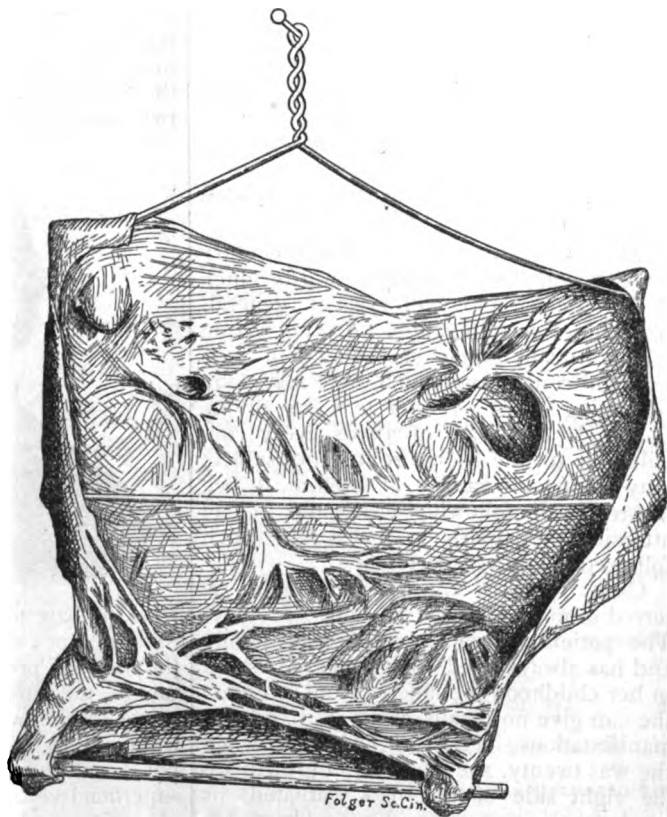
with the base towards the sternum and the rounded apex on a level with and behind the mastoid process. The surface of the tumor measured eleven inches from its upper to its lower limits and eight inches from side to side. The skin covering it is not discolored and a number of distended superficial veins can be seen running over its surface. Inspection reveals that this surface is uneven and that one long furrow has resulted from pressure upon the growth of the sterno-cleido-mastoid muscle. The latter is particularly tense below where it is as prominent as in old-standing cases of wry-neck. While pressure does not influence the size of the tumor, it shows it to be slightly movable, and therefore free

from extensive deep attachment. Fluctuation in the growth is very distinct, and aspiration with the hypodermic syringe yields a bright red fluid which does not coagulate. The absence of solid portions in the tumor, so far as it can be palpated, is easily established.

The cystic character of the tumor being thus established and the bloody contents examined microscopically there could be no question as to the presence of a sanguineous cyst and its extirpation was therefore advised.

Operation May 14th. Anæsthesia with ether having been induced, a large transverse fold of skin was raised and transfixed in such a manner as to make a wound parallel to the sterno-mastoid muscle. A superficial vein (the anterior jugular) was thus exposed and divided between two ligatures. The deep fascia was next opened extensively upon a grooved director and the surface of the cyst was soon exposed. The difficulty of recognizing the cyst wall, which usually obtains in the extirpation of cystic growths was not encountered here, since the growth presented itself in the form of a very dark chocolate-colored and somewhat uneven surface. Before the whole antero-lateral surface of the cyst could be exposed, it was necessary to divide the fibres of the sterno-mastoid muscle which were spread out in a thin layer. When this division was effected, and the margins of the wound were held asunder with retractors, little difficulty was experienced in reaching the upper and lower limits of the growth. In the dissection downwards, a transverse nerve loop (communicans noni) was encountered and had to be sacrificed. As soon as the cyst was well exposed, its complete enucleation was accomplished by blunt dissection, the finger, scalpel handle and grooved director

being used alternately. The hemorrhage attending this part of the operation was exceedingly slight. After removal of the cyst over two inches of the distended internal jugular vein appeared on the floor of the wound. Over the upper portion of the exposed vessel there was a very perceptible roughness and thickening of the cellular tissue surrounding the vein. It is at least possible that, at some period of the development of this cyst, there was some connection at this point between the cyst and the vein. After carefully cleansing the wound with a solution of corrosive sublimate and inserting a large drainage-tube it was closed by ten sutures. After the operation, the patient progressed favor-



FROM A PEN AND INK DRAWING BY DR. DAVID DEBECK.

ably, on the the third day only there arose an alarming temperature (104°). Most of the wound, I am informed by Dr. Dill, healed by first intention.

The cyst contained nearly one pint of a fluid, which was much darker in color than that first removed by aspiration, and which

apparently did not differ from blood, except that it did not coagulate. Microscopical examination revealed the presence of healthy and broken-down blood corpuscles, hæmatin and cholesterin crystals. The cyst did not contain any soft clots, nor were there any firmer laminæ deposited on the cyst wall. This varied in its thickness from about the one-sixth to one-twentieth of an inch in different parts. The internal surface likewise presents remarkable variations. In some parts it is smooth and glistening like the endocardium, while in others it is very uneven presenting irregular elevations and trabeculæ which run from one portion of the cyst wall to another through the cavity itself. Some of these trabeculæ are as large as the chordæ tendineæ and not unlike them. In several places these are so dense as to give almost the appearance of an erectile tissue. Two valve-like folds project from the cyst-wall. A microscopic examination has demonstrated the presence of a quite distinct endothelial layer over most of the internal surface of the cyst. The cyst which I herewith present belongs, unquestionably, to the "sanguineous cysts of the neck."

Cysts like this, which are filled with liquid blood, are of rare occurrence and their origin is very often beyond determination. The question at once presents itself in such a case, whether the cyst was primarily sanguineous or whether the blood was secondarily infused into the originally serous contents of the cyst by the rupture of a blood-vessel in the wall of the cyst from ulceration or pressure. It cannot be questioned that in the great majority of cases cervical cysts are originally serous in character, and may have a varied origin. They appear congenitally after imperfect closure of the branchial fissures. After birth they may develop from rudiments of the epithelial covering of these fissures, which, without assignable cause, again spring into activity. Nélaton, Verneuil, Schuester and Madelung mention cysts of the neck which spring from portions of the thyroid gland which, in the development of that organ, have become separated from the main body of the gland. Quite often serous cysts spring from lymphatic glands which have previously undergone strumous change. Fifield has thus described three cystic tumors of the groin which emanated from lymphatic glands and all of which were lined with a pavement epithelium.

In all of these cases of primary serous cysts blood may enter the cyst and thus convert it into a sanguineous cyst, as a hydrocele may become changed into an hæmatocele.

The sanguineous cysts which are from their inception filled with blood, and to which I believe this specimen belongs, probably always spring from the vascular system. They may begin in the form of vascular nævi, which, by absorption of the tissues between the smaller vessels and ultimately of the vessel walls themselves, are converted into one larger or smaller cyst filled with blood. An angioma springing from the side of a vein and by compression of the latter causing its obliteration may doubtless also be the source of a primary sanguineous cyst. Again the obstruction of a vein from any cause, and its dilatation back of the point of obstruction, may likewise be the origin of such a cyst. The fact that these sanguineous cysts are almost invariably in close relation to large venous trunks goes far to confirm the etiological connection which is sought to be established between them. Again, in a number of cases in which large blood cysts have been found in the neck, the internal jugular or subclavian vein has been altogether absent. The direct connection of such cysts with the blood current can often be demonstrated by pressure, which causes their temporary disappearance. Less comprehensible is the origin of those cysts which cannot be emptied by pressure and from which aspiration first removes a serous fluid to be followed by a flow of blood. In such cases the connection must have been obliterated at some time during the growth of the cyst. That they, however, may spring from anomalies of the vascular system, is established by an observation of Hueter (?), in which, after extirpating a cyst which apparently at first contained serum and then blood, it was found that the internal jugular vein was absent.

The facts which in the present case speak in favor of the primarily sanguineous character of the cyst are briefly: 1. Its intimate relation to so large a portion of the internal jugular vein; 2. The endothelial lining of the cyst wall; 3. The, in many places, fasciculated appearance of its

1. Heuter (in Grünther's Arb. Deutsch. Zeitschrift f. Chir., Bd. viii., p. 467.

internal surface, giving in parts the appearance of an erectile tissue, and the presence of valvular folds; 4. The presence of liquid blood.

Mr. Paget⁽²⁾ is of the opinion that when cysts are from their beginning sanguineous the contents remain fluid until let out; while that which collects by hemorrhage into a serous cyst is generally either partially or wholly coagulated. Just how, under such circumstances, the blood is retained without coagulation or degeneration is difficult of explanation. According to Virchow⁽³⁾ it can be accounted for only by the presence of a communication with the vascular system at large through a number of very small collateral vessels which empty into the sac.

Primary sanguineous cysts of the neck appear congenitally as well as late in life, and develop usually in the side of the neck above and below the sterno-mastoid muscle, and near the clavicle as well as near the mastoid process. Of slow growth, they at times appear to remain stationary, while on the other hand, they may rapidly grow to enormous proportions, so that they extend below the clavicle over the anterior surface of the chest. When deep-seated they give rise to very distressing symptoms by pressure on pharynx or larynx, into which they have been known to open.⁽⁴⁾ After puncture these cysts refill very rapidly with blood. Even after aspiration of a serous cyst, a threatening hemorrhage into the cyst occurred in Mr. Birkett's⁽⁵⁾ hands, recurring after each puncture, so that extreme anemia of the patient followed.

The diagnosis of cervical cysts is rarely very difficult; not so their therapy. While aspiration in these cases, as already seen, is far from being devoid of danger, it is very rarely followed by permanent cure. The injection of an irritant like the tincture of iodine is, of course, out of the question in those sanguineous cysts in which the connection of the interior of the cyst with a venous trunk can be established by pressure, and it should in my judgment not be resorted to in any case of this kind; for such connection doubtless exists often without being demonstrable by so coarse a proced-

ure. Richardson⁽⁶⁾ reports a case successfully treated by the injection of perchloride of iron. The use of the seton and incision with subsequent plugging of the cyst to produce suppuration and closure by granulation, has been practised for the cure of serous cervical cysts. Two cases that I have treated by incision have given me very unsatisfactory results. The one was a deep-seated serous cyst of the side of the neck, the other an hygroma situated in the median line. In both of these cases fistulæ continue to discharge, although the operations were performed respectively two and one year ago.

There is but one radical measure for the cure of cervical cysts, and that is extirpation. Unfortunately, they are not always so situated that this operation is practicable. When it is feasible, the dangers are probably not much greater than those following other plans of treatment which are more protracted and in the end give unquestionably less satisfactory results.

SOME FACTS ABOUT KOUMISS.

By R. B. DAVY, M.D., Cincinnati, O.

I will not attempt to overhaul a subject which has been so generally written about and so generously discussed during the past few years, but beg simply to call attention to some facts with which I am personally familiar. I have been often asked why Koumiss is not more generally used in the treatment of dyspepsia, consumption, and other wasting diseases, being known, by the majority of the profession to be an excellent remedy for these conditions. My answer has invariably been that it is because the remedy is not available. Koumiss cannot be kept in stock by druggists during hot weather, or shipped, except on ice, and this precaution increases the expense very materially.

Perhaps the most important factor which militates against the general use of koumiss by physicians is the want of uniformity in the quality of the article. This is not to be wondered at when one remembers the number of published recipes (all different in some particular or other) that are floating around. Each interested individual imagines he can manufacture koumiss and makes the trial.

2. Paget. Surg. Pathol., 1870, p. 413.
3. Virchow. Geschwulstlehre, Bd. i., p. 154.
4. Vincent (Paget) l. c., p. 404, and Savoy, Lancet, 1866, Nov. 24.
5. Birkett. Med. Chirurg. Transactions, vol. 51.

6. Richardson. Dublin Quarterly Journal, November, 1869.

The scheme very often ends in failure, but if it does succeed there are two chances against one that the remedy will not be correctly applied, and the result is that its reputation suffers. It is astonishing to see how few people can be instructed how to tap the bottle properly. In spite of written, and full verbal instructions, many persons allow the gas to escape and then wonder that the liquid should be flat and unpalatable.

My experience shows that about three-fourths of the patients like to drink koumiss, and with the remaining fourth the taste is easily acquired. I have been prescribing the agent for over five years and have not met a single patient who absolutely refused to take it; moreover in all this time I have seen but two or three cases where it has not checked vomiting when such a result might reasonably have been expected. After consuming two or more bottles of koumiss per day for several weeks, especially if other food has been restricted, most patients become tired, but readily return to it after a few days if, in the meantime, some easily digestible articles of food are substituted. The single fact that the stomach can tolerate koumiss when everything else is rejected and the appetite for it preserved for so long a time is enough to show how well adapted it is to the mechanism of assimilation. Not that it assists in digestion by any diastatic or peptic power of its own, but more by the influence it imparts to the organs of digestion, exciting them to a more vigorous performance of their functions.

Besides the lactic and carbonic acids and small proportion of alcohol which act as a tonic to the peptic glands, the finely divided casein serves as a readily assimilable nutrient, making, together with the inorganic constituents of the milk, a highly nutritious tonic. That it is pleasant to the taste is proved by the fact of its popularity as a summer beverage with persons in health. Nothing is to me more exhilarating or palatable on a hot summer day, especially after out door exertion, than a glass or two of the cool effervescent liquid. While nothing is so pleasant to drink as koumiss properly prepared, few things can be so abominable as it when poorly made or carelessly attended to, and I do not wonder that patients and physicians alike become often disgusted with the vile compounds palmed off on them under the name of koumiss.

Having for a number of years witnessed the good effects of the agent, and being familiar with the disappointments encountered in obtaining an excellent quality of it, I determined about a year ago to manufacture it myself. Since that time I have kept it constantly on hand for the sole advantage of feeling certain that it is properly prepared and properly kept. I furnish it to my patients at the cost of making and never feel in doubt as to its action. Any physician who has a cellar, and is willing to go to the trouble, can do the same thing.

My plan is to send every morning to the patient's house the amount (one, two, or more bottles) to be taken during the day. In the intervals of taking, the bottle is to be laid down on its side either on ice or the cellar floor, and covered with some non conductor of heat.

When the hour for taking arrives the bottle along with a clean and polished glass is taken to the patient's room and the koumiss drawn before the patient's eyes. Drinking it down rather quickly is more satisfactory than sipping it, for the reason that the gas soon escapes and the foam disappears.

After taking from one to four bottles in the twenty-four hours for several days in succession the most delicate stomachs are able to take other food in considerable quantity without apparent injury. My method is to mark out a course of diet, using special restrictions from time to time as necessity requires, and even stopping all food occasionally until the stomach can recuperate, which it seldom fails to do after a few days exclusive use of koumiss.

The indications for the use of koumiss exist in all chronic wasting diseases attended with dyspepsia. It is especially applicable to consumption as most all such cases are attended with more a less disorder of the digestive apparatus. I believe that many cases of this disease can not only be averted but actually cured in the earlier stages by the use of koumiss and proper precautions as to fresh air. A most important measure in these cases is to administer with each glass a sufficient amount of sweet cream, which supplies carbonaceous matter in a manner where its assimilation is assured. Whether from the reflex action on the coats of the stomach or from the soothing influence of the alcohol it contains, I cannot say, but it often relieves the cough of phth-

isical patients, and promotes expectoration when ordinary measures fail.

It produces its best effects in phthisis attended with chronic disorder of the digestive apparatus, but it is undoubtedly of great service in many other troubles acute as well as chronic. My observation, however, has shown me that it is not a universal remedy for vomiting in acute cases, and I have more than once found it necessary to substitute for it the old and familiar "lime water and milk." It is moreover, idle to say that it is indicated in every case of chronic stomach complaint. Persons who use it a great deal will find this out, but they will also discover that these exceptions are important evidence in its favor; for it is a rare thing to obtain a remedy so palatable at the same time that it is so beneficial.

No. 654 Freeman Ave.

Society Reports.

ACADEMY OF MEDICINE.

Meeting of June 16, 1884.

DR. DRURY, *presiding*.

DR. CLEVELAND read the report of a case of

*Locomotor Ataxy Occurring in an Individual
Seventy Years of Age.*

The subject of this report is seventy years old, by occupation a harness maker. His health has always been good, up to a few years back. His habits, as far as I can ascertain, have always been good, and he has always been temperate. I have been acquainted with him for ten years. Two years ago the patient first consulted me professionally. He then complained of pain in his legs and a feeling of uneasiness about the bladder. These symptoms appeared to be transitory, and soon passed away. He occasionally consulted me during the summer of 1882 and the fall and winter of the same year. During the spring of 1883 the troubles became more pronounced, and I saw the patient more frequently. Upon closer inquiry I learned that the symptoms that he first consulted for during the summer of 1882 had never entirely disappeared, viz: pain and a sense of weariness about the lower extremities, and an aching, uneasy pain about the bladder and rectum. He had ceased to consult me in regard to his condition, for he found that his symptoms were subject to

exacerbation, getting better or worse, depending, as it appeared to him on the changes of temperature and on the varying conditions of his bodily health. (This inference was doubtless correct.) He could not perceive that remedies exercised any beneficial influence. He also informed me that formerly his bowels had always been regular, but for about two years he had been troubled with constipation, and that it seemed to be getting worse. He also stated to me that for some time back, just how long he could not state, perhaps for two years, he did not feel able to stand firmly on his feet. He found himself staggering, and he could not tell exactly why. He had acquired the habit of carrying a cane at night when he went out, since he had discovered that he staggered and stumbled worse at night. He had fallen several times. At this period he frequently said to me that there was a feeling of pressure or weight over the lower part of the abdomen, as though there was something binding him. At this time (May, 1883) the symptoms above announced, pain in the legs and lumbar region, aching in the bladder and rectum, still continued, except that they were somewhat more pronounced. His disturbed locomotion was now annoying him, and it was the symptom that especially brought him to me at this date. He was then able to attend to his business. He looked well, and his appetite was good, but his work fatigued him very much, his occupation compelling him to be on his feet the greater part of the time. His legs pained, he felt weak, and he found himself stumbling about the room. He complained that in walking along the street, especially in the evening, after he had been employed during the day, he staggered and walked so irregularly that people not knowing him might easily suppose he had been drinking. Examining him at this time I found that the superficial arteries showed signs of the changes of age (calcarous degeneration). The arcus senilis was well marked, nutrition of the body very good, arms and hands sinewy and strong, did not complain of pain or deficiency of strength in the upper extremities. Mind was clear; articulation unimpaired; pupils normal; vision normal; no ptosis. He complained greatly of his legs; in walking, his gait was unsteady, but there was manifest no dragging of the feet; sensation, as tested by ordinary methods, seemed to be

complete, but he complained of a feeling of numbness. The ordinary movements of the legs and feet were made without any difficulty, but walking and standing required his attention, and if he did not give it he would reel and stagger. This was tested in various ways, for instance, as long as he was attentive he stood steadily, but if you would engage him in conversation, he would weave, especially if he was not looking at the floor. In a word, the ataxic condition usually found in locomotor ataxia seemed to be present. He also had periodic pains in his legs, which he said at times were quite severe (he called it cramp in his legs).

So much for this part of the history, May, 1883.

July 1st, I was sent for to see him at his home. I found him suffering agonizing pain from inability to pass his water, the bladder was dilated half way up to the umbilicus. He had been suffering this excruciating pain for several days and was not aware of the cause, or at least, as is frequently the case, misjudged his condition, because his water was continually dropping away. The relief afforded by catheterization of course was very gratifying.

I now found that the patient had been suffering from retention for a long time; that he had frequent calls to micturate, and if he did not answer these calls in a very short time, the urine would begin to dribble away, and he could not control it. In a word, there was an overflow. He had an old man's bladder, that was only partly emptied by urination.

I now examined the prostate, and found it enlarged to three or four times its normal size and very hard. The hemorrhoidal veins were congested, the sphincter ani appeared paralyzed, and did not close on the fingers when introduced; a hard fecal mass was met with, that interfered with a proper digital examination of the prostate, and which had to be removed. An unusual condition was found: as far up as the fingers could reach this hard fecal mass could be felt, and continuing the palpation and manipulation from the brim of the pelvis along the descending colon, the outline of the moulded colon could be felt, the transverse colon could be traced by its distended condition, and also the ascending colon, down to the cæcum. This could be traced without much difficulty, because there was little or no cellular fat and the abdominal

walls were thin. I now hoped to afford my patient very satisfactory relief by instructing him in the use of the syringe and catheter. I soon taught him to use a rubber catheter, which afforded him much comfort. But unloading the colon was a matter of much difficulty, and could not be satisfactorily accomplished. It was stated above that the patient had been complaining of a sense of pressure and constriction in the lower part of the abdomen; it is probable that the distended condition of the colon accounted for this. I had regarded this, up to this time, as the band symptom so frequently noticed in sclerosis. The query suggests itself, is it not probable that the feeling of constriction so frequently complained of in locomotor ataxy can be accounted for by the pressure produced by the distended colon? Constipation generally attends these cases, but I am not aware what relation, if any, it has to the band symptom.

After inaugurating the use of the catheter and syringe, the patient continued to partly attend to his work. He was partly relieved of some of the more aggravating symptoms, but still suffered. The cramps or periodic pains of which he had been complaining, still continued. He said he thought they were getting worse; the pains usually coming on during the night.

During July and August of 1883, the periodic pains became more severe. They were so distinctly periodic that it was suggested that possibly quinine might relieve them. This, however, was tried without avail. The fact that the pains came on at night suggested the possibility of a specific basis. Iodide of potash was used, but without satisfactory results, nor could any history of specific disease be learned. The pains now became so severe that in September he began to plead so earnestly for relief that it seemed cruel to withhold it longer. Thus far I had avoided giving opiates, for after an hour or two the pain would cease and he would be comparatively free from suffering until the next attack. I wished to avoid, if possible, the opium habit.

His pains now became so severe that I was sent for in the night to relieve him. This was the first opportunity I had of seeing him suffering with these spasmodic pains. They seemed to radiate from the pelvis down to the legs, and were muscular. At times the muscles of the legs were

in a condition of spasm. He said he felt as though his legs would be torn in pieces. He would be dripping with perspiration and would be all in a tremor, crying pitiously from the pain. After these attacks he would sleep quietly, and the next day he would be about as well as usual. But he claimed he was never entirely free from pain in the pelvis and legs. These attacks came on irregularly, sometimes several nights in succession, and then at intervals of several days.

During the fall of 1883 and the winter and spring, the condition above described continued with some changes, always for the worse. His urine had to be drawn off three times daily. This, fortunately, he could attend to himself. The irregular, recurring pains continued coming on during the day as well as at night. Opiates were compelled to be used for his relief, the dose, of course, would naturally be greatly increased. His bowels remained obstinately constipated, and were never moved without the syringe and scooping the accumulations away with the fingers. He became quite skillful in these manipulations, although he moved about with increased difficulty. His legs were emaciating more rapidly than his arms, though the sensation of the parts (the legs) remained intact. He always complains of his legs being cold, and when exposed in the least, pains were apt to come on. He complained of his legs being cold even when they were covered with perspiration, and it seemed impossible to warm them, or at least to make them feel warm to him. His mind, however, was unimpaired.

Present condition: He is confined to his bed; though he can move his legs about, he can not stand unless he holds on to some one. His mind is clear. He is very much emaciated, more so in the lower extremities than in the upper. There is no impairment in the use of his upper extremities. His appetite is good, and he eats with relish, and has during his entire affliction. There is a bed sore over the sacrum, about two and a half inches in diameter; this first appeared in January, and gets better and worse according to irritating circumstances. Cystitis has developed, and his urine is ammonial, and contains mucus and pus. The catheter has to be continued. The bowels remain obstinately constipated, as they have always been, and have to be moved with the syringe and digital excavation.

The sphincter ani is patulous and inactive. The prostate is equal, perhaps, to a mass as large as a hen's egg, half flattened out. He imagined that the tumor is an obstacle to the passage of the feces, but, of course, it does not amount to an obstruction. It is very firm and hard, but he does not complain of pain on pressure with the fingers. Still, when he sits on a chair, he says it gives him pain, referring to the prostate, but doubtless the everted rectum is the source of the pain. The attacks still continue irregularly periodic, they are not spasmodic as they were formerly, and he says they do not run down his legs as they formerly did, but are confined more to his hips and rectum, and that he suffers some in his arms and shoulders. That the pains are severe is evidenced by the fact that when they come on, in a short time he is covered with perspiration. He has gradually increased the dose of the opiate, until at present it requires very large doses to produce the desired effect. There is no impairment of speech or vision, and, as before stated, his mind is clear.

[P.S. Since the above report symptoms of acute meningitis developed, under which he rapidly sank and died June 20th.]

DISCUSSION.

DR. ZENNER said that the case was of particular interest on account of the age of the patient. The history, as given by the author, is that of locomotor ataxia, the rectal and bladder disturbance, and the parasthesia point to this disease. No doubt we can discover the same changes, at least in part, that are found in locomotor ataxia. Whether the cause is attributable to senile degeneration in the cord, or whether we have the general changes manifested in this disease independent of age, speaker can not say. We know not the cause, and hence can not determine whether or not age is concerned in the pathological anatomy. It is certainly unusual to see this trouble occur in an individual as old as the one described, yet it may occur at any age above twenty years. Even in old persons we can not determine the time of its incipency. The changes may have been going on for ten or fifteen years. Like most chronic diseases not due to senile changes, it may begin earlier in life. One reason why we have not detected locomotor ataxia in persons of advanced age is that only a small proportion attain old age. Dr. Cleveland had said that sensation was apparently

not affected, yet some disturbance might have been detected by a very close and careful examination. It is affected generally as to the more delicate sensation of touch, and manifested usually more in certain parts, as in the soles of the feet and calves of the legs. Hence defects may be overlooked. A good test for impaired sensation is a demand to the patient to stand erect with closed eyes. If unimpaired, he will be longer able to maintain the erect posture. There is scarcely any doubt that this inability is directly due to alterations of the sensations of the soles of the feet. The parasthesia is, to a certain extent, the sign of anasthesia, although the former may be present without the latter. The feeling of constriction, if extending around the body, is probably not due to the dilatation of the rectum, since the nerves passing into the pelvis do not encircle the body. It is interesting to know whether the paresis is due to a wasting of the muscles. We may have changes in the anterior cornua of the cord producing this wasting and paresis. The bed sore may have no relation with the condition of the cord. It is probably due to malnutrition of the skin, and not an indication of a disease of trophic centre.

DR. RYAN inquired whether the pain in locomotor ataxia does not pass off before the disease becomes marked.

DR. ZENNER thought this the exception rather than the rule.

DR. THRASHER was not willing to accept the last speaker's explanation of the constricted feeling. Dr. Cleveland had stated that there was an accumulation of feces, not only in the rectum, but throughout almost the entire extent of the colon. This solid mass might certainly, by pressure, cause this pain. Speaker remembered two cases in which this distressing symptom was present. In one of these there was no constipation, but the discharges were rather thin, and the symptom was due, it seemed, to irritation of the nerve fibres. The symptoms of severe pain mentioned by the essayist were not present. Speaker thinks their occurrence rather unusual. Patients generally complain more of their inability to walk. Pain is more a symptom of irritability of the nerve, and not apt to continue when paralysis has set in. The pain is communicable as long as nerve fibres are not destroyed.

DR. ZENNER remarked that why we have continued pain nobody knows. It is

simply a fact that in some cases of twenty or thirty years' standing the pains constantly recur. In perhaps one half the cases they cease, never to return. But this is not due to paralysis, which is the result of a complication in a part not sensory. It is a fact that in the majority of cases the pain is a symptom in the ataxia period, and usually only in the last stages are the patients entirely relieved. As long as we do not know the immediate cause of a symptom, we can not tell why it should cease sooner or later. Perhaps the parts that produce the pain are destroyed. But as long as sensation remains there is a possibility of pain, and even longer, since its disturbance is only an interruption of the conduction, the centre still retaining its power to produce pain.

DR. CLEVELAND stated that the patient was not able to point out the exact situation of the constricted feeling, and lately does not dwell much upon it. Speaker thought the excessive pain rather an exception. He has not had the opportunity of seeing many cases of this character. But in those which have come under his observation, the pain, which was more or less present, was not so severe, nor was it spasmodic, as in the case reported. When it occurred it lasted two or three hours, unless opiates were given, and the patient showed evidences of extreme physical suffering. The extreme age created a doubt in his mind as to the diagnosis, yet he can not comprehend why the disease should not occur at an advanced period of life.

DR. YOUNG desired to speak of a condition noticed at the Hospital, showing a prevalence of

Erysipelas of a Phlegmonous Character.

In the first cases noticed the trouble commenced with a suppurating of the glands of the axilla, temperature rising. In another set of cases the inflammation was followed by a sloughing, temperature high. One colored woman presented herself with a great swelling at the hip, which being opened in two days, was emptied of an enormous quantity of pus.

Since then a girl has been received with an injury of the arm. She complained of great pain, temperature 101°. On examination a fracture was thought to exist, but bringing her under the influence of ether, none was discovered. Applications of alcohol water were ordered. At the end of twenty-four hours the pain had grown so

severe as to require hypodermic injections of morphia. The following day, the arm was much more swollen, and vesicles had made their appearance. About twenty deep incisions were made, and the arm wrapped in a poultice. At this time blueness of the hand was noticed. The pulse was weak. Next morning the temperature of the hand had fallen. The vesicles had not been evacuated. There was something about the case that suggested it to be more of the character of malignant pustule than simple erysipelas. Of the former, the speaker had seen two cases.

The girl died, and on making a post mortem, the tissues were found in a gangrenous condition. The bloodvessels were closely traced, but nothing detected.—Heart and lungs showed no signs of clots. The question is, was her death caused from the shock produced by sudden death of the limb, or was it due to septicæmia?

The next case was that of a man with an arm swollen and vesicated, and a greatly enlarged penis. Two other persons had been attacked in the same locality from which this man came. There was only a slight rise in temperature. Stimulants and quinine were administered, and a poultice applied. Patient is improving. Temperature normal. Considerable infiltration and hardening of the tissues can be noticed.—Speaker has observed cases of similar character outside of the hospital. This condition seems to prevail all over the city, the different patients having come from different parts of the city. There seems to be present a deep-seated inflammation, going on to suppuration, and in the one case simulating malignant pustule very much. Has had little erysipelas in his service. Operated a few days since upon the palm of a hand for the relief of a deformity. The operation necessitated the making of a large wound. Twenty-four hours after the operation he found an inflammation of an erysipelatos character, which, however, subsided upon enveloping the arm in a flaxseed poultice.

DISCUSSION.

DR. WENNING said that a friend of his had recited to him the history of a patient who was taken sick; temperature increased, a bluish spot was noticed on the dorsum of the penis, which was swollen enormously, gangrene set in and the man died. No clue as to the origin of the trouble could be obtained. It was not specific. Treatment

consisted of quinia, alcohol and other stimulants.

DR. THRASHER stated that he had seen one of Dr. Young's cases, and it presented almost a typical appearance of anthrax. Speaker was sorry that an examination for the specific germ of anthrax was not made. The cases were distinctly different. One a case of animal poisoning, the other one of phlegmonous inflammation. The prevalence of these conditions is perhaps due to atmospheric influences.

DR. YOUNG expressed his doubts as to the presence of germs in these diseases. It may not be difficult to find these organisms, but it certainly is difficult to prove their causal relation to the disease. The question is, how do they get there?

DR. WENNING agreed with the last speaker in some respects. The germ may not be an essential factor, but only concomitant with the disease. Something may be going on that develops the germ, yet the disease may not be caused by it. A respectable majority of men claim that, although present, the germ is not the essential cause of the disease.

PHILADELPHIA PATHOLOGICAL SOCIETY.

Meeting of June 12, 1884.

The President, DR. TYSON, in the chair.

Sarcoma of the Testicle.—Presented by DR. G. de SCHWEINITZ.

A. K., aged 43, a native of Germany, married, presented himself May 22, at the surgical dispensary of the University Hospital, for an opinion concerning a tumor of the left testicle with which he was suffering. His general health had always been good until one year ago, when he first noticed a beginning glandular swelling of the left testes. A short time previous to this he had suffered with gonorrhœa which was followed by an attack of orchitis. He knew of no member of his family that had ever been afflicted with any form of morbid growth. Examination revealed a very large, somewhat pear-shaped growth of the left testicle, over which the skin was freely moveable. The veins were much enlarged. The inguinal glands of the left side were also involved, and the thigh and leg of that side swollen from œdema. Above the line of Poupart's ligament both palpation and percussion revealed another

mass situated in the left iliac fossa. A very unfavorable prognosis was given, and operative interference not advised. He, however, earnestly begged for the removal of the tumor of the testicle, which caused him severe dragging pain, and incommoded him in walking. The dangers of the operation, and the fact that at best it would only be partially palliative were explained to him, and as he still asked for its performance, the growth was removed. The case progressed very well for a few days, when he died rather suddenly. Dr. Hughes and myself made the post mortem examination, and found the following conditions: Lungs showed commencing phthisis of apex; left pleural sac contained a pint of serum in which floated some flakes of recent lymph; heart normal, cavities occupied by post mortem clot; liver very fatty; right kidney apparently normal. The retro-peritoneal glands were all converted into a huge sarcomatous mass, as were also the glands and tissues of the left iliac region, and from there the growth passed up to the lumbar region, and surrounded the kidney, though apparently not greatly involving it. Upon cutting into the tumor of the testicle, about a pint of bloody serum escaped from the cavity of the tunica vaginalis. The growth occupies the body of the testis, is soft and friable, in places breaking down, and the cavities thus formed filled with semi-fluid contents. The growth has burst through the tunica albuginea, thus showing the first step in the march of this morbid process up the spermatic canal into the abdominal cavity to the retro-peritoneal glands and other tissues involved by the disease.

Microscopically the tumor is a sarcoma, composed of round and spindle cells which are in relation to the remnants of connective tissue sarcoma. A very distinct tendency to alveolar arrangement is observable in places. It would probably be classed by some pathologists as an endothelial carcinoma or carcinomatous sarcoma.

DR. SHAKESPEARE said that the history of the case, the post mortem finding and the microscopic examination forcibly reminded him of the last discussion by this society of this same subject. In this case the disease has evidently travelled along the deep lymphatics as far as the retro-peritoneal lymph glands of the lumbar region. In this particular it has followed the course of systemic infection pursued by a carcinoma rather than by a sarcoma. But it now seems to

be well established that the well known law governing the generalization of sarcomata meets with frequent exceptions in cases of so-called sarcoma of the testicle. Dr. de Schweinitz has spoken of the presence in the tumor of an alveolar structure, and in truth, the manner in which the growth exceeded the bounds of the testicle brings to mind at once the history of an alveolar sarcoma. The reporter has spoken of this tumor as an "endothelial sarcoma." Dr. Shakespeare objected to the use of the term "endothelial," and thought that the tumor in question would be more properly defined as an alveolar sarcoma. He thought the term "endothelial" was commonly applied to carcinomata of certain kinds rather than to sarcomata, and did not think that the tumor named by Klebs an "endothelial carcinoma" differed from other genuine carcinomata in the form or nature of its cells and alveolar structure, but only in the fact that it may originate or be propagated in the lymph spaces or channels. If the term "endothelial" be insisted upon in this case, why not call the growth an "endothelial carcinoma?" This naturally raises the question of pathogenesis. We are told that the testicle is a derivative of the mesoblast. If this be true, here is ground for debate as to the proper name to give a tumor of the testicle, which has an alveolar structure and a clinical history analogous to true carcinoma. He who believes that true carcinoma never has a real connective tissue origin will not consent to call such a growth of the testicle a carcinoma unless he can satisfy himself that by some chance a few epithelial cells from the blastoderm have become misplaced in the process of development, and have remained here to form a nidus of a future carcinoma. Malignant tumors of the testicle seem to occupy an anomalous position. In the main they are called sarcomata, and yet as a rule their clinical history does not correspond to the sharp outlines which comprise this class of tumors in other localities. On the whole, Dr. Shakespeare was inclined to agree with those writers who accepted in general a connective tissue origin for true carcinoma, in contra-distinction from the epithelial origin of true epitheliomata, and therefore saw no objection to applying the name of true carcinoma to the growths of the testicle which present a typical history and anatomical structure of carcinoma, although they may spring from connective tissue. As bearing upon the subject of path-

ogenesis of carcinoma, he referred to the observations of a few authors who deny the epithelial origin of some glandular structures, mentioning in particular the opinion of Creighton, who after a careful and extensive series of observations on the development and involution of the mamma, concludes that the acini of this gland are not developed from the cutaneous epithelium, but are derived from the connective tissue.

Carcinoma ventriculi.—Presented by DR. J. C. WILSON.

The specimen was removed from the body of A. C., aged 58 years, a native of Ireland, and a washer woman by occupation, who was admitted to the Philadelphia Hospital, March 6, and died June 2, 1884.

The symptoms of the disease first attracted the patient's attention six months before her admission to the hospital. They were, indigestion, flatulence, acid vomiting at intervals, obstinate constipation, and later starvation, wasting, extreme pallor, rigors, a dull, muddy skin and great feebleness. About the time of her admission a small, hard, oblong tumor made its appearance to the right of the median line just above the navel. This tumor was moveable but not painful, in fact, pain was rarely present. Upon post mortem examination the stomach was found to be greatly dilated, extending almost down to the pubes. A cancerous mass was evident from the serous surface presenting a nodule about the size of an egg. Upon section the pylorus was found to be much contracted from the new growth which was a scirrhous cancer undergoing colloid change. The mucous membrane of the stomach showed numerous ecchymoses of varying extent and the changes due to chronic catarrhal gastritis. No metastases to other organs could be discovered, and the lymphatic glands were not enlarged. The organs were all much atrophied, otherwise normal. Slides showing the microscopic appearances of the tumor were exhibited.

Aneurism of left ventricle communicating with aorta.—Presented by W. E. HUGHES.

J. White, æt. 39, a ship-carpenter, was admitted to the University hospital under the care of Dr. E. T. Bruen, March 6. He had always worked hard, been much exposed to the weather, was a fairly temperate man, and never had syphilis. He had had several slight attacks of articular rheumatism, but during none of these attacks had there been any symptoms refera-

ble to the heart. There was nothing of moment in the family history. Three years ago his strength, which had never been excessive, failed somewhat, and it became impossible for him to work constantly. Previous to this, though he had never been very robust, he had yet been able to work regularly. There was with the failure of strength more or less dyspnea on exertion, with tendency to take cold on slight exposure, but no pain over the heart, and no palpitation. Six months ago he was much exposed, and since then has been much worse, palpitation for the first time being troublesome. When first seen the slightest exertion caused the most intense dyspnea, and very annoying palpitation, his hands and face were congested, and his lungs filled with moist rales. The apex beat of the heart was in the fifth interspace in the nipple line, its action heaving and strong. Over the aortic cartilage could be heard a strong, blowing double murmur. He died April 7 of gradually increasing dyspnea, due apparently to congestion of the lungs. He had never complained of pain in the heart. There had been no edema. Autopsy by Dr. Barber six hours after death: pericardium normal, heart enlarged, its left ventricle moderately hypertrophied and dilated; right normal; muscular tissue apparently normal. Between the posterior leaflets of the aortic valve was an oblong opening with smooth rounded edges extending one quarter of an inch above the point of juncture of the leaflets into the aorta, and half an inch below into the wall of the left ventricle, much wider in the ventricular than in the aortic wall. This opening prevented the approximation of the leaflets, holding them at least three quarters of an inch apart, and permitting the regurgitation of blood into the ventricle. The leaflets were attached along the opening, in fact, they formed its edges above. This opening led back into a cavity about as large as a walnut, lying between the base of the aorta and upper part of the left ventricle on the one hand, and the right auricle on the other, bulging decidedly into both auricle and aorta. Its lining membrane was continuous with the endocardium, and was thickened and roughened but not calcareous. The endothelium of the posterior wall of the aorta covering the projection was also somewhat thickened and rough. Between the upper part of the sac and the aorta where the separating tissue was very thin, composed apparently of only two layers of

endothelium, there was an irregular tear, permitting free intercommunication between the sac and the aorta. Between this tear and the upper margin of the opening described above was a bridge of firm aortic tissue. The endothelium of the right auricle over the sac was rough and thickened. The wall of the sac was formed of connective tissue and endothelium. It contained only some recent coagula, none that were laminated. The coronary artery arose immediately above the sac and was not involved in it. The leaflets of the aortic valve were perfectly healthy; other valves normal. The endothelium of the heart showed no traces of degeneration except that mentioned in the right auricle. The aorta above the sac, as well as the coronary arteries, was not in the slightest degree atheromatous. Both sides of the heart contained some chicken-fat clots. Lungs deeply congested. Other organs normal.

Aneurisms of the aorta. Empyema.—Presented by W. E. HUGHES.

J. H., white, æt. 35, a shoemaker, was admitted to the University Hospital under the care of Dr E. T. Bruen, Dec. 26, 1883. He has used alcohol decidedly to excess, but has never been much exposed to weather, and has never done any hard work. No history of venereal disease. There is a distinct rheumatic family history, and he had acute articular rheumatism twelve years ago; since then he has had occasional fugitive pains especially in bad weather. Fifteen months ago he caught cold, and soon after began to feel slight pain along the crest of the left ilium. The pain increased for four days, when it had become almost unendurable, and extended from the left loin along the crest of the ilium into the groin; his urine was passed frequently and painlessly in small quantities, and contained no blood. The pain was ameliorated by treatment, but not wholly removed, though there was not enough to keep him from following his usual occupation; it was almost invariably aggravated by damp weather, and was not decidedly influenced by motion. Twice since then he had paroxysms of intense pain, and each time after taking a mixture containing turpentine, micturition was frequent and painful and the urine contained blood. For the last two months he has had more or less stitch-like pain at the base of the left chest, and a hacking cough. His general health has been failing only slightly, he thinks he has lost about ten

pounds of flesh. On admission his face was pinched and anxious, his breathing rapid and shallow, with intense pain at base of the left lung. Physical examination showed friction sounds at base of left lung, with evidences of a small amount of fluid in left pleural cavity, collected posteriorly; the respiratory murmur over the upper part of the left lung was not quite as distinct as that over the right. The apex beat of the heart was not ascertained with certainty, but it seemed to be a little outside the normal point; the sounds at the apex were indistinct, and synchronous with the systole was a rubbing sound heard only during inspiration. Toward the base of the heart was developed a harsh systolic murmur, heard best over the upper bone of the sternum, conducted feebly into the carotids, and not heard posteriorly. The heart's action was too strong, the whole precordium heaving. The normal area of aortic dullness over the upper bone of the sternum was somewhat widened. He complained of a constant dull pain running from the left loin along the crest of the ilium. Urination was normal, and the urine contained no abnormal constituents. Under the use of salicylate of sodium the pleuritic pain was quickly relieved, and the lumbar pain completely disappeared after a course in alkaline diuretics. The fluid in the left pleural cavity increased slowly for a while, then remained stationary until one week before his death, when there was a rapid increase. The pleural friction sounds came and went; those heard over the heart were even more variable, sometimes systolic, sometimes double, occasionally dependant on the respiration, and again occurring regularly with every beat of the heart. Gradually to the left of the sternum in the second and third interspaces a new center of pulsation developed apparently distinct from the cardiac impulse, and over this area resonance was impaired. Two months after he was first seen a systolic murmur was detected about the middle of the posterior border of the left scapula, distinct from the murmur heard anteriorly. Coincidentally with the development of these conditions there was a steady decrease in the amount of air passing into and out of the left lung, there was no other pressure symptoms. For a month before he died he had irregular rises of temperature with profuse perspiration, and lost flesh rapidly. On April 22 Dr. Wharton introduced a tube into the left pleural cavity, through

which a large amount of sero-pus drained off. April 27 he died. Autopsy twenty-four hours after death. Body much emaciated; in the sixth interspace one inch anterior to the mid-axillary line is an opening leading directly into the left pleural cavity, which is filled forward to the anterior axillary line and upwards to the spine of the scapula with a sero-purulent fluid surrounded by a pyogenic membrane. The lung occupies the remainder of the pleural cavity and is everywhere closely adherent; it is compressed, the fibrous tissue is increased, and there is slight catarrh of the bronchial mucous membrane. The pericardium is dotted with patches of recent lymph, and its cavity contained three ounces of flaky serum; the heart is somewhat enlarged, the valves perfectly normal. The aorta is dilated, its endothelium proliferated, roughened, and in places calcareous. Springing from the arch posteriorly to the origin of the left carotid and subclavian arteries is an aneurism the size of a filbert extending back into the connective tissue to the left of the trachea. At the end of the descending part of the arch is another aneurism as large as a peach, springing from the right posterior surface of the aorta, eroding the anterior surfaces of the bodies of the fifth, sixth and seventh dorsal vertebræ, pressing forward and almost occluding the left bronchus. It has ulcerated through the wall of the left bronchus, but extravasation of blood has been prevented by a firm laminated clot which fills this opening. There was no pressure on the œsophagus nor on the nerves. At the origin of the cœliac axis is another aneurism half as large, pretty well filled with laminated clots. Kidneys and other organs perfectly healthy.

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Cincinnati, July 5, 1884.

Translations.

THE ACTION OF HYDRIODIDE OF HYOSCIN COMPARED WITH ATROPINE AND EXT. HYOSCYAMUS.—(*Deutsche Med. Zeit.*, by Clausen.) The author has found that the hyoscin, in doses of .0005 gm., only causes a pain in the head and a dilatation of the pupils. When this dose is given several times a day, paralysis of accommodation sets in with diminution of vision, dryness of the throat, and pain in the head. In still larger doses they cause sleepiness, unsteady gait, and a mild delirium. The author made these experiments upon himself; he found that after .0018 gr. hyoscin hydrobrom. severe angina with distinct chills and fever of 40°C. set in for three days, deglutition was impossible, pain in the head was almost intolerable. The catarrhal inflammation of the nasal mucus membrane extended to the posterior nares and Eustachian tubes, causing perforation of the membrana tymani. Hyoscin acts as an irritant to the skin. When Ladenburg was experimenting with hyoscin he suffered from eczema. Asthmatic patients who expectorate large quantities of a frothy sputa during each attack, do not expectorate at all after the administration of hyoscin. If the individual tolerance of the drug is once formed, quite large doses may be given in asthma, .00075 to .001 gr. subcutaneously, which has the power to abort an attack in a few minutes. Hyoscin stimulates the vagi nerves, and therefore diminishes the heart's action. Atropine

and extract of hyoscyamus paralyze the vagi nerves, therefore the increase of the heart's action. Hyoscin lessens the respiratory action, while the other two remedies increase it. Hyoscin has a hypnotic effect.

C. W. T.

TREATMENT OF OZÆNA.—(*Cbl. f. die gesamt. n. Therapie.*) Ozæna, according to Dr. Roth's definition, is a chronic inflammatory process of the nasal mucous membrane with a tendency to cause atrophy of this membrane. The secretion from the glandular apparatus suffers very much, causing it to dry rapidly, which forms a kind of a membrane which by its decomposition causes an intolerable stench. R. therefore lays down the following rules for treatment:

1. A softening of the dried secretions, and a removal of the same.
2. Reduce the hyperplastic condition of the mucous membrane as rapidly as possible to a normal state.
3. Removal of the bad odor.
4. If the patient has a tendency to catarrhal trouble, remove the same by suitable treatment.

He makes an effort to meet these indications by the dry tampon of Gottstein, but instead of using absorbent cotton, he employs a tampon of 10 p.c. iodoform charpie. In the morning he conveys into the nose by means of an atomizing spray about 50 gms. of the following solution: thymol, .1 p.c.; carbolic acid, .5 p.c.; chlorate of potash, 2 p.c., to which is added an astringent, tannin or alum, 1 or 2 p.c. By this plan of treatment the entire nasal mucous membrane can be subjected to the medicament.

C. W. T.

WEAK SOLUTIONS OF ESERINE IN PARALYSIS OF THE CILIARY MUSCLES.—(*Deutsch Med. Zeit.*) Since the use of a strong solution of eserine has given very unsatisfactory results in the above affection, Uhthoff made a series of observations with a very weak solution, .00075—.06 : 30, and found that the effect was very good. Occasional cases were found where this method failed. His advice is to employ a solution of eserine, .0015 : 30, a few drops three times a day continued for weeks. It is quite necessary to acquaint the patient with the action of the remedy, since the myopic condition that is produced may cause some alarm. C. W. T.

PARALDEHYDE AS A HYPNOTIC.—(*Cent. Blat. f. Klin. Med.*) Author reports the observations that have been made with par-

aldehyde at Riegel's clinic. The dose ranged from three grs. as a minimum to six grs. as a maximum. After the administration of 4.5 grs. sleep set in as a rule in the course of fifteen minutes. Sometimes unpleasant secondary after-effects occur during its use, such as vomiting, headache, etc., but out of a series of thirty cases only two were unpleasantly affected. The remedy has been employed in a number of affections. The author gave it in emphysema and bronchitis, phthisis pulmonalis, diseases of the heart, nervous diseases, chronic inflammation of joints, and in the various forms of neuralgias. In severe inflammation of the stomach, and in phthisis with involvement of the larynx the drug is contra-indicated. It does not have an injurious effect upon the circulation nor respiration, it reduces the arterial blood pressure but very little, and that soon passes off, therefore the remedy is to be preferred to hydrate of chloral where the reduction of arterial tension is quite marked, after the administration. Since we only possess so few really efficient and safe hypnotics, paraldehyde deserves to be given a very prominent place. The therapeutic indications for the remedy are about the same as where morphine is to be given. Dujardin Beaumetz (in *Bulletin Generale de Therap.*) states that paraldehyde can be administered with more exactness and effect since it does not contain the irritating properties that chloral hydrate does. The sleep that it produces is quiet and refreshing, and lasts from three to eight hours, and when the patient awakes he does not complain of a fullness or pain in the head. The narcotic properties are not as well marked as in morphine, but in simple insomnia the remedy cannot be too highly recommended.

Kurtz of Florence gives to paraldehyde the first position as an hypnotic, where the sleeplessness is not due to pain or mechanical disturbances, as cough, etc. Rothe of Warschau employed it over two hundred times. He always administers it internally, and his results do not differ from those given by most observers. The sleep produced is nearer physiological than when any of the other known remedies are given. There are but few objections to the remedy; one is its sweetish taste, and the other is that it is quite expensive. C. W. T.

APPLICATION OF ANESTHETICS PER RECTUM.—(From *Lyon Medical*, 3 1884.) Dr. Daniel Moliere has produced ether narcosis

cy forcing the ether into the rectum. In the first case, that of a young woman of twenty, it was administered by means of a Richardson spray apparatus. The absorption of the ether progressed very slowly, but in the course of ten minutes the patient became unconscious, and during the operation a few drops of ether held under the nose was sufficient to continue narcosis. After the operation, which progressed quietly, she vomited the soup that was ingested shortly before the operation, otherwise there was no disturbance. In the second case the ether was given in a different manner. A rubber tube about the thickness of a finger was introduced into the rectum and the other end connected with a bottle of ether which placed in a vessel of hot water 50° C. The heated ether expanded and forced itself into the rectum, and in the course of five minutes the patient was unconscious. The operation to be made was the removal of a tumor from the antrum of Highmore, and in this class of operations about the face the new procedure promises to become quite valuable. In the next case the patient had always been a hard drinker, but he became anesthetic without showing any of the signs of the stage of exaltation. C. W. T.

IODOFORM IN DISEASES OF THE HEART.—The following is taken from the *Deutsche Med. Zeit.*, and gives the views of a number of observers on the use of iodoform in diseases of the heart :

Moleschot and Baldassare have used it. B. gave it in two cases in 1879 for insufficiency of the mitral valve where his results were very satisfactory. When small doses are given to dogs (30 to 60 cgr.) the pulse rate is always lessened with a slight increase in the force of the beat. Rummo of Paris observed the same effects of the drug. The effect of small doses is to increase the force of the systole, thereby forcing the blood with more power into the arterial system and overcoming the obstruction; arterial pressure is increased provided that the muscular structure of the heart has not already suffered, or there are other severe diseases contra-indicating its use. C. W. T.

THE ABORTIVE TREATMENT OF SOFT CHANCRES.—From *Prager Med. Wochenschrift*.

Dr. H. Hebra calls attention to a procedure which has acted quite satisfactorily in those cases where he has applied it. The

author can not boast of a large number of cases, but since the result was always the same in all the cases (ten in number), he feels justified in calling attention to his method, if for no other reason than to have the method verified by other observers.

He employs the pure salicylic acid direct to the ulcer. In nearly all cases two or three days of treatment was quite sufficient to cause disappearance of all virulency, while the loss of tissue was replaced in a few days more. In special cases the organ was carefully washed with warm water to remove all secretions and incrustations of former treatment. After being carefully dried the salicylic acid was applied. The applications, if possible, should only come in contact with the ulcer, so as not to erode the surrounding healthy skin. Unless supuration is quite free, one application in twenty-four hours is quite sufficient, but each time the penis must be thoroughly cleansed with warm water. On this the author places great stress. During the third day the acid had best be discontinued and a simple bland ointment, spread on strips of muslin, is applied until it heals. This plan of treatment is not only more rapid than the old methods, but it is also more agreeable. There are no pains caused at all, save a slight burning sensation after the first application, unless too much of the acid comes in contact with the healthy skin. A pledget of cotton is best placed over the top of the powder so that whatever secretions there may be will be taken up by the dressing. C. W. T.

THE RESULT OF SWALLOWING NEEDLES. The following report is taken from the *Wiener Med. Blat.* as a very unique case, but it is well authenticated :

Patient, domestic, aged 23; phthisical family history. In 1876 she suffered from rheumatism, for which she was treated, and when she was discharged there were symptoms of heart disease, but aside from this she was perfectly healthy. In the spring of 1882 she complained of a feeling of weakness, pain in the head and limbs and symptoms of angina. During the summer gastrointestinal catarrh set in, so that the patient was again in the hospital for four weeks. In the fall of the same year patient was again admitted, complaining of a stiffness in the back and lower extremities; she could not turn in bed without assistance. Soon very obstinate attacks of vomiting set in, inde-

pendent of anything that was ingested, constipation, pain in the abdomen, and sensitiveness in the region of the cæcal valve. Later there were attacks of tonic spasm with hemiparesis and hemianesthesia. The diagnosis of hysteria was made. In June, 1883, severe diarrhea and vomiting set in, with sharp stinging pain in the knee, left arm, and in many other parts of the body. The formation of an abscess below the knee caused her to be transferred to the surgical department of the hospital. The abscess was opened and an ordinary needle was extracted. In other parts of the body discolored painful spots were now found, in which a hard foreign body could be felt. Patient was chloroformed, and from her arms, breast and abdomen twelve and a half needles were extracted. Patient would not say how the needles got there, she was very reticent, but later she confessed that in May 1881 she wanted to commit suicide, therefore swallowed five and a half packages of needles, each package containing twenty-five needles. They were swallowed wrapped in paper with the thick end first. She required two weeks to swallow them all. For a long time after she felt nothing of the needles, then pain in the abdomen and bowels set in, confining her to bed for two months. She watched her stools carefully, and claims never to have passed any needles per rectum. At that time she absolutely refused all medical aid for fear of being discovered. On nineteen different occasions, many times under chloroform, sixty-five whole and six half needles were extracted. In Jan. 1884 she was again operated on, removing forty-one needles, the whole number being one hundred and ten. This patient now became severely hysterical again, and when closely questioned as to the cause she confessed that during the past Christmas she swallowed five more packages of needles containing no less than twelve needles apiece.

C. W. T.

THE TREATMENT OF ALCOHOLISM.—By Dujardin-Beaumetz (*Bulletin gén. de Thér.*)

The author thinks that strichnia ought to be considered not as an agent, that counteracts alcoholism itself, but only as that which best opposes its nervous manifestations, drunkenness and delirium tremens.

The use of strichnia will probably permit of the drinking of large quantities of alcohol without becoming intoxicated, but it in no way opposes or prevents those grave altera-

tions in the different viscera, the ensemble of which constitute the main features of alcoholic poisoning.

Dr. Luton sustained, on the contrary, the idea that the action of the drug was directly opposed to all alcoholic manifestations, in fact was a veritable antidote, and even went so far as to propose its addition to all our strong beverages.

Dujardin-Beaumetz by no means admitted this assertion, all his experience tended only to prove strichnia a good therapeutic remedy for delirium tremens, but in no way beneficial in alcoholism proper as it is understood today.

T. P. W.

EXTRA-UTERINE PREGNANCY. — Dr. Pinard reports the case of a woman 31 years old who became for the third time pregnant in November 1882.

The only peculiarities consisted in sharp, lancing pains about the hypogastric region, which compelled her to remain in bed.

The pregnancy came to term and the patient experienced all the symptoms of labor,

Upon examination, the diagnosis of extra-uterine pregnancy was easily made.

There was nothing done at the time and the woman gradually improved and was partly able to attend to her household duties. At the end of two months the tumor, which had remained stationary, began rapidly to increase and soon reached to be double its size. Dr. Tarnier was called in consultation, he advised an incision in the posterior cul-de-sac where a bulging into the vagina could be detected.

An incision was accordingly made and the fœtus extracted without difficulty. The placenta however could not be extricated, but it detached itself in a few days. The only treatment was the daily injections of Hydrarg. bichlor. cor. (1 in 2000),—the patient recovered completely without a trace of septicemia.—*Jour. de Méd.* T. P. W.

ULCER OF THE CORNEA.—Meyhöfer, of Görlitz, publishes (*Monatsbl. f. Augenheilkde.*, March, 1884) a valuable contribution to the treatment of *ulcus corneæ*, in the shape of the comparative results in one hundred and twenty-six cases, treated as in-patients, during the last decade.

During the first period, sixteen cases were treated from the old standpoint; warm fomentations, atropine, etc. Of these seven were lost, ending in staphyloma or total leucoma.

During the second period, seventy-one cases were treated, sixty-two by the Sæmisch operation. Of the seventy-one eyes, six were lost, four among those not operated upon, these being already hopeless when first seen, and two among those operated upon.

The author's method of operating differs somewhat from that of Sæmisch. Instead of making the incision through the floor of the ulcer, he makes it at the boundary in healthy corneal tissue, a demarcation-incision.

During the third period, thirty-nine cases were treated; the floor of the ulcer was first cleaned of the debris of pus, broken down tissue, etc., by means of a delicate, little curette or spoon; and then finely powdered iodoform was dusted on. Of the thirty-nine cases, twenty-nine healed nicely and promptly. This not succeeding in the remaining ten cases the Sæmisch operation was made. Of these ten cases, two were lost.

The author sums up his results, and favors the plan of scraping the ulcer and dusting on iodoform. When this does not arrest the process, the Sæmisch operation to be made in conjunction with this treatment.

Of these one hundred and twenty-six cases, seventy-four occurred during the five months, May to September; and only fifty-two during the remaining seven months showing that about two-thirds of the cases occur during warm weather. This supports, so far as it goes, although the author fails to call attention to this point, the view that this trouble is of a mycotic nature.

DEBECK.

THE JEQUIRY QUESTION.—The March No. of the *Archives of Ophthalmology* contains a symposium of views upon this subject:

DE WEAVER.—A fresh infusion, only, should be used. The beans, freed from their husks, are ground to a powder, cold water is poured on, this is set aside for three hours, filtered, and the infusion is then ready for use. This is done daily. A three-per-cent infusion is usually used, only in cases of dry, degenerated conjunctiva a five per cent.

One application only is made; the infusion being thoroughly rubbed in with a small sponge. Only when this fails to produce proper reaction, is a second application made after forty-eight hours interval.

When the trachoma is not cured, the

treatment may be renewed a second or third time after intervals of two or three weeks.

The dangers are two; applications of strong infusions should never be made in rapid succession; and applications should not be made to an eye already discharging.

It is in these cases that the cornea is endangered, and the discharge already existing is increased, and purulent conjunctivitis may ensue.

The cases to be selected are those of chronic trachoma, with dry, non-secreting conjunctiva. These promise brilliant results. Fresh cases with papillary swelling, pulpy conjunctiva, and discharge are to be carefully avoided.

Good results have been obtained in other corneal troubles not due to trachoma: torpid central ulcers, torpid scrofulous pannus, and the sclerotic results of parenchymatous keratitis.

DERBY, Boston. A two per cent. infusion, prepared fresh for each patient, is used. The eye is bathed in this, fifteen minutes at a time, three times a day, usually for three successive days.

The results in thirty eyes were; in twenty the pannus cleared up more or less, five remained stationary, and in five vision fell off; four of these five cases having corneal ulcers resulting.

Of the thirty eyes, eight developed corneal ulcers more or less serious, under this treatment.

CHISHOLM, Baltimore: Used in a large number of cases, restricted to those of trachoma with pannus. A two per cent. infusion, twenty-four hours in cold water, freshly prepared for each case, was used. This was dropped into the eye three or four times, or oftener, during the day until the characteristic reaction was obtained.

Noticed no uniformity in the susceptibility of patients; in all cases it produced more or less pain; and in three cases it produced constitutional effects, rigor and high fever.

In one case infiltration of the cornea followed; and in another case, a perforation.

Found in many cases a repetition necessary after a few weeks; and also that relapses were very much less common after this treatment than any other.

WEBSTER, New York. Reports in detail thirteen cases from Agnew's and Roosa's clinics. As a rule these were marked, aggravated cases, of long standing.

Of these thirteen cases, eleven showed improvement; in four or five this being very distinct and considerable. Only two cases are recorded as showing little or no improvement. Details of preparation and strength are omitted; the application was made thrice daily, as a rule, until the ophthalmia was produced.

WALKER, New York. Reports in detail thirteen cases. As regards these cases, have never seen any *bad* effects, but, on the contrary, in most instances, good results. Has found the infusion efficient, even after keeping six months at a temperature of 65°-70° F.

The infusion was applied from one to four times daily for a period varying in different cases from ten days to three weeks, with bathings of the lids in an infusion every one or two hours.

This prolonged treatment was only carried out in the earlier cases, and seemed to result from inefficiency or uncertainty in the preparations, although good results, eventually, are recorded. In the later cases this treatment was only necessary for a period of from one to three days. DEBECK.

SYMPATHETIC OPHTHALMIA.—Theobald, Baltimore, publishers (*Arch. of Ophth.* March 1884,) a polemical paper on the pathogeny of this affection. He very strongly combats the older view, now gaining some re-acceptance, that the trouble is due to direct transmission of the inflammation by way of the optic nerve itself.

In this connection he sharply criticizes Alt's tabulation of the published cases; making that author's figures give quite different evidence.

He also opposes Leber's theory of the transmission of septic material by way of the peri-neural lymph spaces.

He sums up in the following words:

1. The doctrine that sympathetic ophthalmia is the result of a progressive optic neuritis, which spreads from the primarily to the secondarily affected eye, is supported by no facts worthy of serious consideration, but is the out-growth of grossly misinterpreted clinical and pathologico-anatomical observations.

2. The septic choroiditis theory of Leber rests upon evidence which is scarcely more substantial; and from both an anatomical and a clinical point of view is open to serious objection.

3. There is an overwhelming preponder-

ance of testimony, both clinical and pathologico-anatomical in favor of the at-one-time universally accepted doctrine that sympathetic ophthalmitis, like sympathetic irritation, is a reflex neurosis, dependent upon irritation of the ciliary nerves of the exciting eye, probably for the most part of their terminal filaments in the ciliary body and iris. DEBECK.

THE BERLIN POLYCLINIC. — Clinical courses comprising all the different special branches, for practical physicians, are held every month in the Polyclinic at Berlin, Germany, Carlstrasse 30. The courses always commence on the first week day of the month, and are held every working day. The number of participants is limited to six for every course. Should more than six apply for the same course, an extra or parallel course will be formed.

To all those physicians wishing to perfect themselves in a special branch, the opportunity is given to serve three months as assistants in that particular branch. Those gentlemen having served as assistants will be allowed in appropriate cases to conduct the extra or parallel courses. It is intended to elevate the Berlin Polyclinic to an international medical school for the improvement of physicians of every country. In order to have the courses conducted in foreign languages, assistantships will be conferred also on foreign physicians.

DR. LUDWIG LOEWE, Surgeon-General of the Berlin Polyclinic.

Darmouth, at the recent Commencement, conferred the degree of LL.D., on Prof. P. S. Conner, of this city. Dr. Conner's brilliant career as a lecturer, clinician, and writer renders this honor eminently fitting.

Selections.

MEDICINE.

ANTISEPTIC INHALATION AND THE BEST METHOD OF CONDUCTING IT.—Robert J. Lee, M.A., M.D., read the following before the West London Medico-Chirurgical Society, which we extract from *The Medical Press and Circular*:

It was not difficult to foresee that if the antiseptic principle of treating certain surgical forms of disease were once established

upon a sound clinical basis, it would be soon extended to the treatment of diseases of the lungs, and particularly of the most common disease, pulmonary phthisis. Before this could be done, however, we had to consider carefully the different conditions under which the treatment could be carried out. It was easy to use a fluid antiseptic where the parts were within reach, but in the case of the lungs it was clearly necessary to use the antiseptic in the form of vapor, so that it could be carried by inspiration into contact with diseased tissues.

The bacillus theory of phthisis rather favored the use of antiseptic agents, and thus encouragement was given to this extension of a principle, at first applied only in surgery, but promising very reasonably to be of value, and great value, to the physician. It must be distinctly admitted, I think, that the merits of this method of treatment will be determined entirely by clinical experience. I mean to say that if it is to be a matter of faith with the great number of us, it will depend on our own personal observations and our own experiments; and however reasonable it may be in theory, we should soon cease to adopt it if, after a few trials, we met with doubtful or negative results. It matters very little to the majority of our profession whether the bacillus theory of tubercle be decided one way or the other, and only those few can feel much interest in the question who are competent to examine it for themselves. But the majority of our profession cannot do this. The knowledge and skill required to test microscopically or otherwise the nature of a bacillus or bacterium are very considerable; and the most experienced microscopical examiners are the best aware of the difficulties of this kind of investigation.

But we can put to the test the value of the antiseptic principle in practice, and it is not only our duty to do so, each one for himself, but the promise held out of benefit to those that suffer is so great that our liveliest interest must be excited by it.

The question, therefore, that we must first decide is briefly this. The antiseptic agent which we propose to employ must be in the form of vapor, and not of fluid. This vapor must be tested in some way, and shown to be reliable. It must be tested just as we should test a fluid before using it. It will not do to be making ex-

periments with an agent the qualities of which we are ignorant of, for self-evident reasons; but particularly because we could not bring into harmony with our own observations those of others who had obtained different results. We must at the very outset settle this question first, and when we are agreed on the plan we intend to follow, we shall soon be able to establish conclusions. You would imagine that this preliminary question must have been decided already. This is not the case, however, and it still remains to be considered.

I will point out as briefly as possible the method that appears to me to be altogether the most convenient, the most reliable, and the most accurate.

I have here a solution of carbolic acid in water, such a solution as could be relied upon for surgical practice; the ratio of carbolic acid to water is two per cent.; that is, one in fifty. Now if we convert this solution into the form of spray some might suppose that it could be inhaled. This spray, however, is not vapor. The particles of fluid have not changed their condition except that they are separated or pulverized. They are still in the fluid state, and they act as the fluid itself would act on parts they come in contact with; but it would be easy to show that they cannot pass far into the respiratory passages, and cannot reach the remote parts of the lung.

The agent or force by which bodies are generally converted from the solid or fluid state to that of vapor is heat; and if we heat or boil this fluid and convert it into vapor we shall discover that the carbolic acid also evaporates, and we may naturally inquire, what are the properties of this carbolized vapor. Is it in the first place a vapor of definite strength, or does the carbolic acid only come off in small quantity? Is it antiseptic vapor?—that is, will it prevent septic action? and lastly, can it be inhaled? and can we reasonably expect it to act as an antiseptic in phthisis and other forms of disease of the lungs? On these points I have made experiments which would satisfy you, if I had time to enter into details, that there is no method so convenient and reliable as this very simple one of heating an aqueous solution of carbolic acid and breathing the vapor of it. There is one reason for this to which I would ask particular attention, and after explaining it, if time allows, I will make a

few remarks on the use of some agents, such as benzoic acid, thymol, and others, which might possibly be useful in therapeutics.

Our first object being to obtain an antiseptic vapor of definite strength; when it was observed, I believe by myself for the first time, that carbolic acid apparently evaporated at the same rate as the water with which it was mixed, it was clear that we had thus presented to our use the most simple and accurate means of testing this question. When I say that vapor of carbolic acid appeared to come off equally with the water, you will understand that I was using the only tests that I could apply personally, and that this observation arose, not by accident, but the result of a series of experiments made with several substances, of which the volatile oils were the most important—the oils of turpentine, eucalyptus, cloves, cubebs, cinnamon, and many others, the experiments being made simply to determine this question of how they acted when boiled with water. There were no data to assist; as you can easily understand, this question would not offer much attraction to any one but a medical practitioner who had a special object in view. Having found that none of the substances had this peculiar property of carbolic acid, I felt impressed with the importance of submitting my own results to further experiment conducted by scientific chemists. It appeared to me most necessary that there should be no mistake upon this point, and I must take advantage of this opportunity to express my obligations to Dr. Piesse, and Mr. Johnston, for the care and trouble they took in deciding a question of some difficulty in chemical analysis.

The determination of the quantity of carbolic acid in a given solution is not a very easy matter. What was done was this: A certain measured quantity of water was taken, and to this a certain definite quantity of pure carbolic acid was added. This was boiled until a certain quantity of the solution had evaporated, and the remainder was then tested. Again, another quantity was evaporated and the remainder tested in the same way as before; and this operation was repeated until the solution had been entirely used. It was thus easy to determine whether the carbolic acid kept a constant proportion to the water or not. It is known to chemists that hydrochloric

acid mixed with water evaporates in constant ratio, a fact observed, I believe, by Professor Roscoe.

The experiments of Dr. Piesse and Mr. Johnston were entirely confirmatory of those I had made in a different manner, so that now I am in a position to assert that for the purposes of testing the antiseptic method in the treatment of pulmonary disorders we have a reliable, accurate and convenient plan at our disposal.

I will read you the letter in which Dr. Piesse states the results of his experiments:

“January 1, 1884.

“The experiments consisted of three sets, each of six experiments.

“The strength of the solution of carbolic acid in Set 1 was 5 per cent.; in Set 2, $2\frac{1}{2}$ per cent.; in Set 3, 0.5, $\frac{1}{2}$ per cent.

“The *modus operandi* was as follows:

“Six flasks were taken, numbered 1 to 6, and into each a solution containing 10 grammes (150 grains) of pure crystallized carbolic acid (absolute phenol) was poured, and the bulk of fluid made up to 200 centimetres by the addition of distilled water. They were then set to boil, and were boiled vigorously:

“No. 1 for 10 minutes

“2 “ 20 “

“3 “ 30 “

“4 “ 40 “

“5 “ 50 “

“6 “ 60 “ respectively.

In each after cooling and restoring to its original bulk with distilled water, the amount of phenol remaining was estimated by pouring in a standardized solution of hypobromate of soda, containing a trace of free bromine.”

Then follow the actual figures in a tabular form, from which it will be clear when we consider the nature of this analysis that for practical purposes the vapor is constant in its quality. I will not trouble you with these figures as they would more suitably be submitted in a printed form.

The next question which arises is this, What proportion of carbolic acid and water should be used to afford a vapor of certain value as an antiseptic, in which the carbolic acid is reduced to a minimum? for there is clearly a disadvantage in using a vapor stronger than necessary; or, worse than that, injurious effects might follow from it.

If the solution contains carbolic acid in the proportion of 1 to 80 as the strongest,

and from that to 1 in 150, we can be certain of obtaining a vapor of high antiseptic properties. A vapor stronger than 1 in 80 acts as a solution would upon the skin and produces the usual irritating effects which follow the application of carbolic acid. A drachm of carbolic acid, that which is known as Calvert's No. 2, added to from fourteen to sixteen ounces of water, will be found to supply a vapor of proper qualities for the purposes required.

I would suggest now a simple plan by which the vapor can be exhaled. Instead of boiling the solution in a small vessel or in a kettle from which the steam would pass off at a high temperature, and thus considerable danger might arise of accidental scalding of the mouth or throat, the steam may be made to issue in a jet at a certain tension. As the steam in this state escapes it carries with it a current of air which quickly reduces its temperature, and reduces very considerably the possibility of the danger arising from the use of vapor at low tension.

Some years ago I explained the use of this principle for the supply of warm vapor, as distinguished from steam at high temperature. By the addition to our knowledge of the property of carbolic acid which I have been pointing out, we obtain a current of antiseptic vapor, and we obtain it in such a form that we can use it very conveniently for the purposes of testing clinically the value of the antiseptic theory in the treatment of pulmonary disorders.

It has been thought by some that the best plan would be to place the patient in a room the air of which was charged with the vapor of carbolic acid, and theoretically this plan has much to be said in its favor; but I need hardly point out that such a plan must be so greatly limited in its application as to make its general adoption impossible. It has no advantage practically over the plan I have suggested.

Now, if you ask the question, What proof is there that the vapor or steam given off by water and carbolic acid when boiled together in the proportions I have stated is surely antiseptic? The answer is simply this, that by experimentally exposing to its action solutions which under ordinary circumstances are found to putrefy, such putrefaction does not occur. The general plan adopted in such experiments is the same in principle as that we employ when

testing the solution; it is only modified to suit the altered conditions.

It is easy to vaporize many substances by heating them in their pure state, and I promised to make a remark upon some of these. For example, benzoic acid, as we all know, is very volatile. If a piece of dry gum benzoin be heated it parts with the benzoic acid. The same thing happens when a piece of gum benzoin is boiled in water. The benzoic acid evaporates very quickly with the steam. Eucalyptus oil does the same. Here we have two substances which are converted into vapor at very different temperatures. Benzoic acid vaporizes below the temperature of boiling water, while oil of eucalyptus must be raised to a much higher temperature; and yet they both vaporize in much the same way when boiled with water. They differ entirely, however, from carbolic acid. The reason is not apparent, but the fact must be clearly recognized if we use any particular substance in clinical practice.

You can easily understand that one person may say that he has obtained such and such results, while another has obtained very different ones, and useless discussion may arise; that is to say, if the methods of vaporizing the substance in question are not stated the real explanation of the disagreements is overlooked. It is therefore necessary if we desire to use any volatile substance for clinical purposes to ascertain the proper conditions for its use. I would advise that we should work for some time with carbolic acid alone and test the antiseptic principle as generally as possible. There may, after all, be no value in it. I am inclined to think from personal experience that there is a great deal in it if it is carried out on accurate and scientific principles.

We are too apt at the present day to sacrifice our independence to assumed authority in matters of therapeutics, and I think there is a degree of credulity in our profession which we ought to be on our guard against. We do not trust enough to our own experience, and we are rather too apt to adopt new remedies on insufficient evidence of their merits, and then we are disappointed and discard them. I have been anxious this evening to place before you the question of the antiseptic treatment of a certain class of diseases in such a way as to prepare you to judge independently of the question and to criticise any statements which are submitted to you.

SURGERY.

IMPORTANT POINTS IN CONNECTION WITH THE SURGERY OF THE URINARY ORGANS. By SIR HENRY THOMPSON, F.R.C.S., in the *British Medical Journal*.

The Treatment of Stricture of the Urethra by Internal Urethrotomy.—There are two considerations which I am bound to submit to you, since they are those which have influenced my own mind as in some degree a justification for my presence here, and which sustain me in view of the task imposed. The first is, that a period of twenty-five years at least of very active engagement in the practical observation and treatment of the diseases in question has furnished an experience which, I believe, is almost without parallel at the present day. The second consideration is, that it has been my habit from the very first carefully to record at the time, in writing, every case I have had; and that such notes are systematically arranged and preserved, so that they can be produced and referred to whenever required. It is my sincere desire now to offer to my professional brethren a faithful epitome of these facts, so far as they relate to the subjects treated in this course of lectures.

One word more I venture to utter regarding myself, and I do so only for the purpose of explaining how it is that the experience referred to has been so ample in regard to these particular diseases. I do so with the less difficulty, because the explanation is found almost solely in connection with our Royal College here. I just now spoke of twenty-five years of active surgical practice; but thirty-three years have elapsed since the Council of our College offered for competition, in 1851, as the subject of a Jacksonian Prize. "The Pathology and Treatment of Stricture of the Urethra," many questions concerning which were at that time warmly discussed by the profession both at home and abroad. The time happened to coincide with my entry on professional life, after an active house-surgeoncy at my hospital and elsewhere; and such a proposal offered the very occupation wanted by one whose time was now unoccupied, and who desired nothing so much as a defined object at which to work seriously and laboriously. It was the accident of obtaining that award, and not long after, another Jacksonian Prize—an essay on the prostate in 1859—which determined the nature of

a career which I had never dreamed of thus shaping for myself. I claim, therefore, the honor, of being in an especial sense—and it is a legitimate source of pride, I trust, within these walls, to do so—a son of our noble College; and after the third of a century continuously devoted to studies thus initiated, I am here to report myself at the paternal hearth to-day, happily finding one of my earliest teachers and college-friends worthily occupying the presidential chair. The seeds were sown, sir, by your predecessors here; and they selected the variety which was distinct. The gathered harvest could only correspond thereto; and, such it is, I desire, with your permission, to garner it here.

[The lecturer then gave a brief but carefully considered historical sketch of the treatment of stricture of the urethra, in England and abroad, during the present century, with a view of "tracing the formation of opinion respecting it, and of pointing out a growing concurrence in opinion among practicing surgeons that, in dealing with stricture by operation, free incision of all the opposing structures must be adopted or the result will be temporary only, and disappointing.]

I have just alluded to Professor Syme's early enunciation of this principle, which he decided could only be effectively realised in practice by an operation performed in the perinæum, a proceeding which met with great opposition here, and was the occasion of a very acrimonious discussion. A cardinal defect in his method is now, at this distance of time, apparent. Recognizing the truth on which I have been insisting, that the division of the stricture must be complete, he limited himself to the division of one stricture only, rarely being able to reach or deal with two from the perineal wound, if, indeed, he cared to recognize the existence of multiple stricture; or, at all events doing so, he believed in the disappearance of other or minor contractions, after the principal stricture had been freely divided. There is no warrant, however, for any such belief; it will not suffice for the purpose of affording substantial relief to a patient, whose urethra is narrowed by stricture in two or three distinct situations, to divide, however freely only the chief of these, and leave the rest untouched. So far from a secondary narrowing disappearing after what has sometimes been termed "the master stricture" has

been cut, it often happens, at no distant period, that the points formerly slightly affected seem to assert themselves more obstinately than before. I cannot, therefore, insist too strongly on the value of an axiom, which I will venture thus tersely to formulate—"if you cut at all, cut all," that is, all the points in the urethra at which the presence of obstructing deposit is to be demonstrated, and all the obstructing tissue at each point. Such is the unhesitating conviction which a long experience of internal urethrotomy has forced upon me.

In the year 1854, I published the Jacksonian essay referred to; and, after much personal intercourse and study with Professor Syme, I adopted his view in relation to the permeability of structure—a circumstance which I now regard as one of the most valuable of the many important lessons I learned from that most able, fearless, and honest man. I have, in the course of my life, met with three instances in which, after much careful manipulation, I have been unable to pass an instrument fairly into the bladder; and in these three instances only have I performed perineal section for the relief of stricture without a guide previously passed. Between 1852 and 1855, I operated by Syme's method of external urethrotomy upon a grooved staff nine times only, thenceforth, exchanging it for internal urethrotomy, which I have practiced systematically ever since; at first, on the very worst forms of the disease only, and gradually, as the result of increased confidence in it and satisfaction with the results, much more frequently than at first. And now and then, but very rarely—for example, when large abscess and perineal fistula afford the perinæum—the division on a grooved staff has still been resorted to. These remarks on this important subject lead me now to present briefly an epitome of what my experience has led me to regard as the safest and most efficient mode of treating a confirmed example of organic stricture of the urethra.

I think it will be agreed by most experienced surgeons that, on first verifying the presence of an urethral narrowing, the history of which is recent, as a rule, nothing need be done beyond gradually restoring the calibre of the canal to its normal state, or thereabouts, by means of flexible bougies. The well known form styled "oliveaire" can scarcely be improved; and if it be desired to carry the process of dilatation as far as

possible, the well polished tapering silver or silver-plated steel dilators are very efficient, and at the same time unirritating to the passage. Modifications of the flexible bougie are, however, now so numerous, in regard of form, material, and even also of their internal contents that each surgeon will doubtless employ most advantageously that which best accords with his own views, and with his own manner of manipulating. There are, of course, congenital organic as well as acquired narrowings of the external meatus, and near to it, which will not dilate, and which a simple incision suffices to divide. Strictures also affecting the canal within three or four inches of the orifice do not benefit much, or for any prolonged, period, by dilatation. But when, in the ordinary case of recent stricture, the canal has been restored to a full calibre by dilatation, it may be often maintained so by an occasional regular use of the bougie by the patient himself for several, sometimes for many, years. In after life, however, as all the tissues become more rigid, those which form the stricture also dilate less readily, and a smaller instrument than formerly can now only be passed. But sometimes even this sign scarcely shows itself; for which reason I think it unwise, as a rule, to propose an operation in the early stage of stricture, but prefer to afford a patient the chance of its being amenable for many years, if not altogether, to the very simple treatment indicated. But whenever a decided tendency to contract manifests itself, be it sooner or later, I think it is wise to resort to internal urethrotomy without delay. Were this plan always pursued, we should have no perineal abscesses or fistulæ, no consecutive chronic cystitis, with organic changes in the bladder, ureters and kidneys, as a result. Then to advise the delay of an operation until symptoms indicate that such complications are appearing, involves complicity in a course which irretrievably damages the patient's life. Hence I have no hesitation now in advising internal urethrotomy whenever organic stricture, single or multiple, near or distant from the meatus, shows signs of not yielding readily to dilation. No delay is, in these circumstances, of any value as regards the stricture.

When cases are first met with in a more advanced stage; when the use of dilating instruments is liable to be followed by temporary retention of urine, or by rigors, then

very little question can arise as to the propriety of operating. It is very rarely too late to incur any risk there may be in doing so; and the persistence of the phenomena mentioned must, if not checked, undermine the constitution of those who are the subjects of them. In relation to those cases in which rigors almost always occur after the passing of a bougie, I know nothing so admirable as the results of urethrotomy; since, if completely performed, the operation itself is, in these cases, rarely followed by such an occurrence.

I am convinced, therefore, of the necessity of ensuring complete division of all the obstructing tissue; not only in relation to future results, but to the present well-doing of the patient; and thus have an additional support for the value of my maxim: "If you cut at all, cut all."

This brings me to a very important subject. How are we best to ascertain, before undertaking to divide the morbid tissues constituting strictures what are their extent and situation? In other words, what is necessary, for our purpose, to be done to diagnose the physical condition of the urethra?

It may first of all be remarked that, in a simple and recent case of strictured urethra, and therefore for a large proportion of all the cases of stricture, a very simple proceeding suffices to ascertain where and to what extent the canal has been morbidly narrowed. And as all instrumental interference with the urethra, however delicately effected, is apt to provoke irritation, which in a few persons is serious, we are not warranted in introducing large or complicated mechanical contrivances for the purpose of diagnosis, at all events in recent cases.

It suffices for the purpose to introduce a full sized bougie, by which I mean one which will pass in a healthy urethra without stretching it, merely separating its walls, to about the same extent as the flow of a full quantity of urine will do, when it passes naturally. Such a stream, in most persons, equals a volume, perhaps, of ten, eleven or twelve of the English scale. If such an instrument fail to pass, we diminish the size until one is found which does pass, after which, dilatation may mostly be speedily and effectually made, and nothing more may be necessary. If more specific information be desired, in an exceptional case, a series of solid bulbous-ended instruments, of which the stem is slender, and

each bulk follows the sizes of the catheter-scale employed, will supply accurately the data required, and on the easiest terms possible to be obtained. Such a series I have used for thirty years, and no other except for trial; and I have never seen any plan equal to this for simplicity, efficiency, and for effecting the object without inducing irritation. They are better also than flexible instruments of the same form, which are less easily used, and are far less accurate in the inductions they afford.

Suppose, then, the case of a patient for whom it is decided to perform internal urethrotomy. The external meatus is first examined, and is often found to be contracted; a bulb, say No. 12 or 13 in size, passes tightly through it, and stops perhaps at an inch or more from the orifice; after the use of three or four smaller sizes, a No. 9 passes, and meets a check at five inches; and here, after other trials, a No. 2 or 3 goes on into the bladder. On withdrawing the bulbous instrument, the situation of of the contracted parts is again verified by the check which the bulb receives in passing them in its progress outwards. It is clear, therefore, in such a case, that there are at least two chief points requiring incision, besides the orifice. This is all that need be ascertained before the patient is rendered insensible for operation, when the examination may be repeated, if the surgeon desire to do so with more minuteness before incising.

Now, at this point, it is necessary to consider some preliminary questions of importance—namely: What is the principle on which an intra-urethral incision which is out of sight ought to be made; and what is the best instrument to accomplish the purpose? Is the division of tissue to be complete, and to be made solely according to the judgment of the operator; or, is it to be made by a machine, the action of which is not necessarily to divide all opposing tissue, but simply to do so sufficiently to permit the introduction of a fair-sized catheter through the urethra, when the cutting-instrument is withdrawn? For example, we may introduce a small grooved staff along the urethra into the bladder, and then slide along the directing groove a blade more or less protected, so as to divide such tissues as lie within range of its point or edge, and no more. But this, I contend, is not an efficient mode of dealing with urethral obstruction, if its complete division is the ob-

ject to be attained. Complete division, indeed, is rarely thus accomplished; much of the diseased tissue usually escapes the blade; the result is uncertain, and is far less perfect than that which follows a section made by a knife, directed by the will of the surgeon against the resistance encountered at the time, and previously ascertained by exploration. I suppose that a knee blade of appropriate form, and completely under the control of his hand, would be always employed by a surgeon, for use in any other part of the body than the urethra, when he desires to make an incision, the limits of which are to be carefully defined. For my own part, I can see no reason why that spot alone should be excepted from the action of this principle.

Take the fibres which confine a hernia, for example; here, the finger and the blade act in perfect harmony, the section depending entirely on the delicate perceptions of the former, which determine the surgeon's judgment during every moment of the cutting act.

The section in tenotomy is, perhaps a still more apposite illustration of the necessity that exists for an intelligently made division of every fibre, which opposes the return of the limb to its natural position. In both instances the section is made from the sense of touch only, and without the aid of vision; and it appears desirable that a like control should govern the act of dividing those bands which encompass the urethra and form the stricture. No mode of section is half so certain, so safe, and so satisfactory, as that of drawing through them from within outwards a little blade attached firmly to a long slender handle, a proceeding completely under the control of the surgeon's hand. I know that this is not the generally accepted mode of operating either here or elsewhere. It is precisely for that reason, cherishing as I do strong convictions as to the superiority of the method, that I have determined to make its advocacy the main theme for our consideration to-day. I am told, both here and abroad, that the cutting blade sliding in a groove, of which Maisonneuve's instrument is the type, is so simple and safe a proceeding that any man, however unpracticed, may perform it. Is that a reason in its favor?

The same doctrine was very lately taught in relation to the method of splitting strictures by means of two diverging rods, at

one time so much in vogue, now so completely and so properly neglected, but always so easy of performance? Are we to accept an unsatisfactory proceeding because of its universal applicability, and thus be content to establish an imperfect standard for the sake of bringing it within the reach of incompetent operators? Between the two systems now under consideration, there is this difference; one is the product of a machine, and the other is the handicraft of an artist. And the same distinction, which is so obvious in regard to innumerable forms of human activity, between the uniform and commonplace results of machinery and the finished achievements of the intelligent painstaking artist, marks the character of the two modes of operating now in question. And let me remark that the practice of operative surgery becomes a sorry occupation if it be not indeed an art, and a very fine art, too! So far as it becomes a mere matter of mechanical contrivance, it ceases to be worthy the devotion of a man of parts. A cultivated hand is the most cunning and effective source of power; and the simpler the instrument employed the greater is the influence of that hand, and of the intelligence which guides, and permeates it.

In operating for stricture, I have, during the last twenty-five years, used only a little blade with a long handle, and have always commenced by placing that blade on the further side of the stricture, and made the incision in a direction towards me, that is, from behind forwards, cutting just so much in length and in depth as the obstruction perceived at the moment appears to demand.

Now, in order to place a small blade beyond or on the bladder-side of a stricture, a certain amount of space in the urethra is required. In the case above supposed, in which the deeper stricture of the two admits only a bougie No. 2 in size, there is not room for a sufficiently strong instrument containing the blade to be so placed; but a little dilatation will enable it to pass. The calibre of No. 5, English, suffices for our purpose. Hence, in such a case, I simply tie in a gum-catheter (No. 1 is ample for the purpose), and retain it there two, or at most four days. By that time, without changing the catheter for a larger one, or if so only once, the necessary enlargement of calibre is accomplished.

The urethrotome which I employ is made on the principle of the one used many years

ago by Civiale, modified in one or two points by myself. The bulbous end has a mean diameter of No. 5; the stem is about two and a half or three. The patient being under the influence of an anæsthetic, the little catheter which has been tied in is withdrawn, and the urethrotome is first introduced as far as to the deep seated stricture, through which the terminal bulb is then insinuated. It must now be passed fully half or three-quarters of an inch further in, that is, beyond the stricture; and the blade being exposed in a direction towards the floor, is pressed firmly thereon and drawn forward, until all resistance, sometimes considerable, is completely overcome. A touch on the button near the handle sheaths the blade, and the outward movement proceeds until the site of the second stricture is reached, when another incision is made in the same manner as before. The urethrotome is then withdrawn, and the meatus freely divided by a scalpel or short urethrotome. I next take a blunt metal bougie or dilator, No. 15 or 16, English size, and ascertain if it will pass without obstruction into the bladder. It generally does so at once; if, however, its progress be arrested at any point, the situation of this is carefully noted, when I withdraw the dilator, reintroduce the original rethrotome, and divide the opposing tissue; but this, as I before said, is seldom necessary. I may add that I am very rarely satisfied with anything less than the free and easy passage after the operation of a metallic sound, No. 16 in size; in some cases, No. 17 or even 18 will pass. A gum-elastic catheter, No. 12 or 13, is then tied in, and should remain always forty-eight hours; with an extra twenty-four or forty-eight hours, if the incisions have been deeper than usual, or if hemorrhage be free or continuous, the latter being a very exceptional occurrence.

It is sometimes objected that, if a small instrument can be easily passed through the stricture, and if this may be easily dilated so as to admit an urethrotome as large as No. 5, why should any cutting operation be performed? The reply need only be brief; the object of division is to remedy the tendency to recontract, which certain strictures exhibit, and which almost all do when they have continued several years. In other words, it is marked contractility in a stricture, and not mere narrowness, which renders operation by incision desirable.

An important inquiry remains: What are the results of internal urethrotomy in relation to the reappearance of stricture? Does the operation free the subject of it from that liability to return which constitutes the very serious character of the disease when treated only by dilatation?

The reply to this question cannot be a simple and categorical one; it must be made with limitations.

I may remark first, that it may be taken for granted that no mode of urethrotomy which fails to ensure complete division of the obstructing tissues has a chance of affording permanent immunity from the complaint. Whatever be the mode of operating, if incomplete division only be effected, the patient will find his urethra narrowing after a more or less prolonged interval of time. What happens then in those cases in which, as far as the operator can judge, he has effected a complete division? Well, I am free to confess that it is not possible to promise immunity from return. We may render the period of return as remote; we may produce a good calibre, easily maintained by occasional regular dilatation, a procedure which, before the operation, was not only ineffective, but painful and irritating. We may place a patient in a condition of health and comfort for several years, meantime saving his bladder ureters, and kidney from the slowly but surely occurring grave changes which threaten his existence. Now and then, but rarely, I have met with a case in which the patient's troubles have never re-appeared. I am certain we cannot reckon on this result as a rule, and I mistrust claims to the contrary as due to error of judgment, or want of information, or as prematurely made, *i.e.*, without waiting sufficiently long to observe remote results. In enunciating this opinion, I have no hesitation whatever. But herein I have stated the worst in regard to the patient's prospects, and have shown you the reverse of the medal. Thus, supposing after a few years the patient find himself unable, through re-appearance of contraction, to pass a bougie of adequate size, division can again be resorted to. It is not a dangerous proceeding, necessarily occasioning hesitation on the part of the patient, when his condition demands relief. Just as in calculus cases, a second, a third, or even a fourth stone can be, and often is, safely removed by lithotripsy when, after the lapse of time, fresh products are formed;

thus also may a stricture be dealt with by this operation, a second or a third time if necessary. By the prompt resort to the remedy, should it be again required, the disease may be confined to the canal, and the real gravamen of the malady, the implication of vital organs, certain to result after long continued ineffective dilatation, is altogether avoided.

I have performed this operation now for between three and four hundred patients. Some of my earliest cases were, from want of sufficient confidence and experience, less completely and freely cut than those on whom I have operated of late years, and a few of the early patients have been recut. I have not regretted such advice in a single instance, for the advantage to them has been undoubted.

The risk of the operation is very small. Estimating the number of patients on whom I have performed it as 340, which is within five, more or less, the deaths have been six, or not two per cent. These were due to pyæmia in three, to embolism in one, to extravasation and exhaustion in two; one of the latter was a case in hospital almost thirty years ago, among my earliest, and he was unfit for any operation.

The sum of my experience is the expression of a strong conviction that internal urethrotomy, completely performed, should be resorted to as the best and safest treatment of stricture, as soon as the easy use of the bougie fails to maintain the urethra patent, or to allay signs of irritation in the bladder arising from obstructed urethra. It is the best means not only for relieving urethral obstruction and its painful symptoms, but for ensuring the future sound condition of the organs which lie behind it.

INJECTIONS OF CORROSIVE SUBLIMATE SOLUTIONS INTO THE INGUINAL GLANDS AND INTO THE SPLEEN IN SYPHILIS.—Subcutaneous injections of iodine, ergot and the like have been made as frequently for the purpose of reducing hypertrophied glandular organs, as those of corrosive sublimate with the view of curing constitutional syphilis. Ergot has been employed in a similar manner, not only to diminish the enlargement of the spleen, but also to improve in general leucæmic conditions. While assistant at the clinic of Prof. Da Costa, I made a number of hypodermic injections of the fluid extract of ergot in a case of leucocythæmia. Though the disease was a well pro-

nounced, almost typical case of the splenic variety of this malady, and though the spleen was more than triple its normal size, leucæmic cachexia had nevertheless not developed itself. Six drops of the fluid extract of ergot was daily injected into the skin of the patient immediately over the splenic tumor. The internal treatment consisted of iron. The result was very favorable. Prof. Da Costa had demonstrated the case as a typical one to the class. About two months later the great teacher was able to show the same individual publicly—cured. Many similar cases have been reported.

Prof. Mosler, however, was the first to make injections of Fowler's solution directly into the substance of an enlarged spleen. His three cases induced him to draw the following conclusions: that such injections are well borne even in large doses; that the effect of the remedy, if employed in the manner indicated, is far more intense and more certain, but that this mode of procedure should not be made use of in *soft* splenic tumors, nor in cases where the cachexia is already so pronounced as to have caused a hemorrhagic tendency; and that in leucocythæmia this treatment is dangerous. His own cases were chronic tumors of the spleen due to malaria. A fourth case ended fatally. After the sixteenth injection peritonitis followed, and the patient died.

Kussmaul made a parenchymatous injection of sclerotic acid into a leucæmic tumor of the spleen. Only one decigram of the acid was injected, but the patient soon afterward died. He had been suffering from an advanced stage of the disease, and his death was not due to any poisonous effects of the drug, but to the fact of the injection having entered directly into the circulation, the tumor having been of the soft variety.

Peiper mentions the conditions which are considered essential for the successful and innocuous injections into the the parenchyma of the spleen. The organ must be of dense solid consistence, and almost touch the abdominal wall; it should at least lie as near to it as possible. Then the patient must have no tendency to a hemorrhagic diathesis, and not be in the state of leucæmic cachexia. Of the utmost necessity is the preparation of the system and the spleen for these injections. The patient must previously be subjected to prolonged internal treatment with remedies by the action of which upon the contractile elements of the spleen the quantity of blood in the organ is

diminished. Lastly, for several hours before and after the operation, the external application of ice-bags over the spleen is necessary.

Notwithstanding Mosler's warning, Peiper tried injections of Fowler's solution into the parenchyma of the spleen in a case of leucocythæmia. The result was exceedingly favorable and very prompt. But Peiper also insists upon the same conditions that Mosler found essential.

Lewin, as is well known, was the first to suggest and practice hypodermic injections of corrosive sublimate in constitutional syphilis. He recommended the regions of the glutei muscles as the most suitable locality. Many cases have been since reported in which this treatment proved rapid, reliable and effective, though the local irritation has often given rise to complaints. I have also made use of the same method, but must confess that the internal administration of mild mercurial preparations, with gradually increasing doses until salivation is fully developed, or the inunction cure, carried to the same issue, and each of these treatments followed by iodide of potassium, has met a far greater success in my hands than Lewin's method.

The following accident gave me the opportunity to try a new treatment. May 12, 1882, five young men came together to my office. They had each contracted the primary sore from one and the same woman. I will name them A, B, C, D, E. In A a small vesicle was noted on the third day; B and C observed an erosion of the skin the fifth day; D on the morning of the sixth and E, the most careful of them all, first detected a small ulcer near the prepuce on the ninth day. He at once visited his friends and in the evening of the same day the five entered my office. Every one had one single sore, evincing induration. All five were young men, varying in age from 19 to 23 years. All were free from organic disease, and were otherwise perfectly healthy, almost robust. D and E were brothers, C a distant relation, and A and B simply their friends.

Here was an opportunity for comparison of different forms of treatment. Explaining to them that constitutional differences, and differences in the time of the appearance of the primary sore, necessitated a different remedial procedure in each case, I treated them as follows. In A, B, C and D I cauterized the sore with nitric acid, then

applied lead-water for a few days and afterwards kept the wound dressed with iodoform. In E I removed the indurated tissue with scissors, and then applied iodoform. In none did I employ any internal treatment, save in A, to whom I gave calomel, guarded by opium, in gradually increasing doses, and B, whom I put under what I shall call, for the sake of convenience, the preventive treatment, which I shall describe later. C had a bubo five weeks after the initial sore, D on the sixteenth day, and E on the twenty-seventh day; while in A and B a very small bubo developed itself, in B at the end of the fourth, and in A at the middle of the fifth week. I now employed the preventive treatment in D, making the injections directly into the swollen inguinal gland.

To bring the conclusions which I have drawn from these observations into closer connection with the data from which they have been derived, I will here mention what these facts seem to indicate.

That the excision of the primary sore, including the whole indurated part, is of no influence whatever on the further progress of the case. A long experience has taught me that even the cauterization of the primary sore for this end, is probably also superfluous.

That, whether the patient is put under an anti-syphilitic treatment while the healing of the primary sore is progressing or not, has very little, if any influence on the swelling of the inguinal gland. That is to say, if the sore would have been followed by a bubo without treatment, no treatment can prevent its appearance; but if thus treated, the glandular inflammation will be less intense, the gland will swell less. If we accept the theory of the pathologists, who say that the swelling of the gland in these cases is not due to sympathetic inflammation, but to accumulation of the infectious material, we may explain the fact mentioned by saying that in the two cases A and B the anti-syphilitic treatment had in so far diminished the virulence of the poison, as the irritation of the gland was less severe.

Varying in time from five weeks up to seventeen weeks, all the cases showed evidences of constitutional affection save D's, in whom, up to this time, no secondary or any other symptom of lues has been observed. In A and B the symptoms were very moderate, the former suffering from a very mild form of psoriasis palmaris, and the latter from an angina syphilitica, not in the least

severe. C and E had roseola, which in E was followed by syphilitic eczema all over the body, and almost synchronously by angina coupled with ulceration of the right velum. I put A, B and E through an inunction treatment followed by iodide of potassium. They also have since had no lues. I made use of the preventive treatment in C's case, injecting the remedy into the parenchyma of the spleen. The treatment was commenced the third day after the appearance of the roseola, the latter having lasted but two days. Thus far no constitutional disturbance has been manifested in C's case.

From these data I conclude—and my experience in general leads me to the same result, that thorough antisiphilitic treatment instituted during the progress of the primary indurated sore, while not preventing the constitutional infection, probably not even postponing it, has a subduing influence on the whole future course of the disease, the symptoms are milder and more amenable to treatment.

That the preventive treatment if applied to the bubo before other constitutional symptoms have appeared, seems to eradicate the disease; and

That if the same treatment be made use of, either at the time of the roseola or any other time preceding the constitutional manifestations, and is applied to the spleen, it seems to extinguish the poison of syphilis and to prevent any further constitutional affection.

Lastly, from an experience of over twenty years, and owing to accidental circumstances specially considerable in luetic maladies, I am convinced that syphilis can be eradicated.

In a future article I shall endeavor to adduce the proofs for this assertion. Suffice it to say, that three months ago I had for the first time the opportunity to witness the effect of antisiphilitic treatment in the third generation. When yet a student, twenty-one years of age, I had a patient under my charge in Berlin whom I treated according to the above principles. Two years later he asked my opinion about his marrying. I advised him to continue taking the iodide of potash twice a year, but told him that he might marry, which he did. A year later I delivered his wife of a healthy daughter, whom I attended for pertussis, varicella, morbilli and croup, once for tonsillitis, and once for a neuralgia caused by a decayed

tooth. Three months ago I delivered this daughter of a male child, which up to this time does not show the least trace of hereditary lues. In a second case, still more interesting, and to be reported by me at some future time, an individual cured of constitutional lues contracted a hard chancre the second time, seven years after the appearance of the first, and this was again followed by systemic infection. I showed this case to a number of friends.

Regarding preventive treatment: this consists in the injection of a solution of corrosive sublimate, first into the enlarged inguinal gland, when this succeeds an indurated primary sore—it may also be well to do so after the multiple ulcer—and at a later period into the parenchyma of the spleen. I do not know that it is always possible to make such injections into this organ. That the spleen is enlarged in lues, experience has proved to me. Sometimes this hypertrophy is considerable, without speaking of those fatal cases in which we find gummata in the liver, spleen, and other organs, and in which the spleen is sometimes greatly augmented in size. In my patient this organ was rather large, and the abdominal walls were not thick. I made him lie on the left side, and about an inch below the ribs, where I could palpate the dense organ, close to the skin, I pushed in my needle, nearly two inches long. Twenty-one such injections were made. They were followed by very little reaction. Once the patient had a chill a few minutes after the injection, and some fever ensued; another time he felt sick at the stomach; but these were the only untoward symptoms noticed. Local reaction was moderate.

The injections into the bubo were made with a very small and very thin needle, but notwithstanding its sharp point, the patient complained of the pain. These glands are in the beginning very hard and dense. The fluid itself always caused a little, and sometimes severe pain, lasting about half an hour. Should later experiments prove that these injections into the bubo are invariably followed by such good results as those noted in D, I shall always employ them in preference to those into the spleen, if I see the case early enough; and I shall even later do so if there is enlargement of an inguinal gland.

The syphilitic poison is probably absorbed only by the lymphatic system, and thence is carried into the circulation. It is possi-

ble that while the poison in the mucus membrane easily causes erosion and then ulceration, arrived in a gland, like the inguinal, it does not perhaps proceed further until the pathogenetic substance—be it a bacillus or anything else—has reached a certain grade of development, when it is carried away into the circulation. If we can succeed in destroying the poison anywhere, the bubo would seem to be the place to attack it. It is then not yet in the system, and we have an easy access to it. If it be too late, if the poison have entered the circulation, I would then advise a further trial with injections into the parenchyma of the spleen, though I see the difficulties in the way, which in my case were small. Should the spleen be moderately enlarged, and should a great amount of adipose tissue intervene between the abdominal covering and the spleen, such injections become impracticable. For even if we had a needle long enough to reach the organ, how can we be positive that the needle really enters the spleen? Still there is one consolation; a solution of corrosive sublimate will always be less dangerous than one of arsenite of potassium, the consequences of which Mosler dreads so much under certain circumstances. A solution of one sixteenth of a grain of bichloride of mercury, if it contains no other obnoxious ingredients, will scarcely cause any danger even if it should enter the peritoneal cavity or bowel.

This leads me to another important point. When making these injections I first placed the needle in a ten per cent solution of carbolic acid, and then drew up into the syringe a like solution, filling with it the barrel of the instrument. Then washing it out with an aseptic solution of salicylic acid and cleansing with the strong carbolic acid fluid the skin at the place where the injection was to be made, everything was prepared for the injection of the corrosive sublimate. These precautions were perhaps superfluous when employing such a powerful antiseptic as the solution of corrosive sublimate—at least superfluous with the inguinal gland—while with injections into the spleen we cannot be too careful.

There is one question still to be decided, if it ever be possible to determine it. Did these injections of corrosive sublimate act as I have indicated, or did they simply exert the same effect that mercury always has in this disease? In other words, was there any advantage gained in making these in-

jections into the parts selected, or would they have done the same amount of good if they had been injected elsewhere, into the gluteus muscle, for instance?

In those cases in which I succeeded in eradicating the lues to such an extent as to observe no relapse of any kind during a period of two years, I had gradually increased the dose until salivation had commenced and continued three to six days, when the treatment had been followed by a prolonged course of iodide of potassium, to which, for the sake of precaution, the patient had to resort twice a year after his discharge from my observation. But in those cases in which I had employed the injections as a preventive, I anxiously avoided salivation, and ceased the treatment on the least indication of the approaching inflammation of the gums, and followed it by no after treatment. Besides, by no treatment had I been enabled to prevent the normal course of constitutional infection from its onward march, no matter how much I may have influenced its degree of severity. But here in D's case the disease seemed arrested with the bubo, in C's case with the roseola. During the last fifteen years I have often employed some form of mercurial treatment up to full salivation, either during the healing of the primary sore or immediately after its having healed, to influence the remaining induration and its possible consequences, but in those cases which I was able to follow up, I never succeeded in preventing constitutional infection, though the symptoms were mild.

Certainly, some cases never returned to me. Some among them may never have been troubled by any secondary symptoms and enjoyed the immunity of D and C. There have, besides, been cases reported, in which a Hunterian chancre succeeded by a *non-suppurating* bubo nevertheless was not followed by constitutional lues. Whether there are on record any authenticated cases of such a kind I am not prepared to say, but repeat that all cases of hard chancre followed by non suppurating bubo, and continuing under my observation, had heretofore become the victims of secondary symptoms, no matter what their treatment during the progress of the primary indurated sore.

In the light of all this, I think I am entitled to say that there is some reason why, in cases of enlargement of an inguinal gland following a primary indurated sore, hypo-

dermic injections of corrosive sublimate should be tried, and in cases where there has already been an indication of constitutional infection, as roseola, and where no special accidental conditions contra-indicate their employment, the same solutions should be injected into the parenchyma of the spleen, and in both cases should be continued until the first warning symptoms foreshadow the approaching mercurial stomatitis.

I do not by any means wish to draw conclusions from the two cases reported; still, in modern times, if one thinks he has made an observation which he thinks may do some good, one has to be a little quick in making it known, or come too late. But the main reason inducing me to make this early report consists in the twofold desire to see the treatment tried in a larger number of cases, and should it possess the benefit it apparently promises, to have its value accrue to the immense number of unfortunate victims of this baneful disease.—*Phil. Med. Times.*

FEMORAL HERNIA; PERFORATION OF A DIVERTICULUM.—At the recent German Surgical Congress, Dr. Busch, of Berlin, described the case of a man, aged 53, who had for years worn a truss on account of a

small femoral hernia on the right side; this gave him no inconvenience and could readily be replaced. At the beginning of April he was seized with severe pains; he reduced the hernia, that appears to have increased in size, and the pains immediately increased; and severe peritonitis and distention of the abdomen followed. The patient was admitted into the hospital almost moribund, and nothing could be felt in the right femoral region excepting a slight thickening of the tissues. Enemata of lukewarm water were administered, but the patient died within five hours after admission. At the necropsy, the peritoneal cavity was found to be filled with fæces; on the right side was the sac of a femoral hernia completely empty. A small diverticulum projected from the small intestine, two feet and a half above the cæcum; it was not gangrenous, but at its base a small perforation was detached. Dr. Busch believes that the diverticulum had probably occupied the hernial sac, and had become ulcerated through pressure of the structures surrounding the neck of the sac, hence the extravasation of fæces and the disastrous results that followed the reduction of the hernia. The diverticulum was exhibited before the meeting of the Congress.—*British Medical Journal.*

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HORLICK'S DRY EXTRACT OF MALT—BEST IN USE.

Original Articles.

IS HOMEOPATHY BECOMING EXTINCT.

By E. C. BRUSH, M.D., Zanesville, O.

In order to answer the question we must first define Homeopathy.

The word homeopathy is made up from the Greek *ὁμοιος*, like, and *παθος*, suffering.

Charles Christian Hahnemann is acknowledged to have been the originator of this peculiar practice, and his writings are the rules and regulations supposed to govern Homeopaths in their study and practice.

In the year 1790 Hahnemann was practicing medicine in Leipsic, and claimed that Peruvian bark given to himself in large doses had produced symptoms analogous to those of intermittent fever. Going still farther he claimed that other drugs taken by himself in a state of health, produced symptoms similar to those these same medicines were supposed to cure. A vivid imagination probably aided him in these investigations it being a well known fact that physicians are inclined to be imaginative when considering their own physical condition; as a result of his investigations Hahnemann brought forth "*similia similibus curantur.*" It is not within the province of this paper to discuss whether or not Hahnemann originated "*like cures like*" only so far as it relates to homeopathy. This he certainly did.

Hahnemann, seemingly not content with one theory as to medicine, brought out others, but with these we have nothing to do, except with the one relating to the size of the dose. He originated the idea of infinitesimal doses, claiming the more you dilute a drop of medicine the more you increased its potency.

In 1810 Hahnemann published his "*Organon of Rational Medicine*," thus bringing his peculiar doctrine before the civilized world.

In 1825 Dr. H. B. Gram of Boston, introduced homeopathy into the United States, since which time factions have arisen in the ranks, styled "*rational*" and "*liberal*" homeopaths, and these two have made a third which is supposed to have existed already, viz., "*pure Hahnemannians.*" The latter are the consistent ones, and profess to believe and practice according to Hahnemann's teachings. The "*rational*" homeopaths adhere to "*similia similibus*

curantur," but take their materia medica from the rest of the profession, and also reject some of the side issues of homeopathy. The "*liberals*" claim that medicines cure because of their alterative powers, and not by virtue of their similarity; they cling however, to the minute dose. In short, the rationalists reject the small dose theory, and the liberals go back on *similia*.

It is not deemed necessary to mention the homeopathic materia medica, what they give, what they claim *not* to give but *do* give, or anything of the kind.

It is taken for granted that a man who advertises himself as a homeopathist is one, and that if he is a liberal or a rational he would so advertise.

Now we can answer that homeopathy is a peculiar practice in medicine, originated and established by Hahnemann as given in his "*Organon*," and consists of two fundamental principles, viz., "*like cures like*," and the administration of medicines in infinitesimal doses.

Therefore a man who calls himself a homeopathist believes in these two fundamental principles as made by Hahnemann, and is guided in his practice by the *Organon*. If he does not do this he is a hypocrite, and practices medicine under false pretenses.

The earlier homeopaths no doubt were, or at least tried to be pure Hahnemannians, but this paper will endeavor to show that homeopathy is practically extinct. The testimony for this will be taken solely from the writing and utterances of homeopaths themselves.

The following letter from Dr. Geo. Wyld, at the time of its writing Vice-President of the British Homeopathic Society, is intensely interesting. The letter is directed to Dr. Richardson of the regular profession.

12 Great Cumberland Place,
Dear Dr. Richardson: May 25, '77.

With reference to the conversation recently had with you concerning the advantages which might result if it were possible to abolish all sectarianism and its accompanying heart burns, from the profession, I now at your request submit my views in writing; feeling convinced that you will in a friendly spirit give the subject your serious consideration.

In the first place I must state that Hahnemann in 1806 published in the pages of *Hufeland's Journal* his essay entitled "*The Medicine of Experience.*" No mention was made of homeopathy in this essay, and the

doses he recommended were tangible, not infinitesimal. The violent opposition this essay met with from the profession induced Hufeland to decline further communications in his journal from Hahnemann, and the effect of this treatment was to drive Hahnemann deeper and deeper into his peculiar views, until at last in his old age he held extreme and intolerant opinions regarding the profession generally, but especially in relation to the question of the dose. Unfortunately, many of the converts to the new system imitated the master more in his intolerance than in his genius, and this naturally led to those reprisals on the part of orthodox medicine, which in this country culminated in 1851, when the British Medical Association met at Brighton and passed a resolution that it was derogatory to its members to hold any intercourse with homeopaths. From that time to this we have been ostracised by the profession, and branded as aliens to whom no professional countenance could be shown.

Since 1851, however, great changes have taken place in this country on both sides of the medical profession. Many men have arisen in the ranks of medicine who have renounced all the heroics of the past in the treatment of acute diseases, while the homeopaths on their side have almost entirely abandoned the use of globules, and have substituted doses in a tangible form. Further, we find that whereas the earlier homeopaths denounced all auxiliaries in the treatment of disease, it is now the practice to make frequent use of all remedies of a simple kind. In short we define our practice as rational medicine, including the law of contraries, but *plus* the law of similars.

The abandonment of heroics on one side and the adoption of tangible remedies on the other side, has, to common observation, brought the two schools into very close juxtaposition, and the question therefore presents itself, can that ostracism which might have been justifiable in 1851 hold good under the present altered circumstances? To this you reply, that you do not ostracise us because we prescribe medicines according to a specific rule, nor because we prescribe them in an unusual form, but you deny us professional intercourse because we proclaim ourselves sectarians, and by means of books, journals, societies and hospitals, we advertise ourselves as homeopaths.

To this we answer that we do not desire to publish ourselves; we do not write the

word "homeopathist" on our door plates(?); many of our books eliminate the name homeopathy from the title page, and a large number of our body have objected, in a recent memorial to the title Homeopathic School.

We say, admit us on equal terms to your medical societies, and to the pages of your journals, and all sectarianism will from that day begin to decline, and this I believe will ultimately lead to the abandonment of all sectarian societies, journals and hospitals.

To recapitulate: We admit, 1st, that the views expressed by Hahnemann are mostly extravagant and incorrect; 2dly, that Hippocrates was right when he said "some diseases are best treated by similars, and some by contraries," and therefore it is unwise to assume the title "homeopathist;" 3dly, that although many believe the action of the infinitesimal can be demonstrated in nature, its use in medicine is all but abandoned in this country.

On these grounds, and claiming that we are legally qualified medical men and gentlemen, we claim the right of admission to your medical societies, and to professional intercourse with the entire medical body.

In conclusion, I must remark, although this letter must be regarded as non-official, the sentiments it expresses are held by a large number of our body.

Believe me, yours sincerely,

G. WYLD, M.D.

Dr. Wyld's letter seems to say, "only open the "allopathic" arms, and we will renounce everything from Hahnemann down and believe everything from Hippocrates up, and come in and gladly be embraced." Dr. Wyld accepts the situation and shows his manhood from first to last. He knows that he is not a homeopathist though called one, and he is tired of sailing under false colors. According to him homeopathy is dead, and they want to bury it in an "allopathic" cemetery.

Now let us turn to our own country and see what the homeopaths think of themselves.

At a meeting of the Homeopathic Medical Society of N. Y. at Saratoga, July 1878, the following preamble and resolution were adopted:

WHEREAS, The theory of dynamization, set forth in the Organon, has in the past few years developed in the homeopathic school a peculiarly extravagant and extremely questionable method of preparing

homeopathic remedies, which seems to be clearly without explanation upon any known principle, other than that derived from magnetic or psychological forces; and

WHEREAS, The accumulated experience of the past half century has demonstrated that the process of dynamization of medicinal substances, described and recommended in the Organon by Dr. Hahnemann, is neither consistent with the principles of the homeopathic school, nor reliable or satisfactory in practice; and

WHEREAS, It would appear that sufficient time and abundant opportunity has been afforded for furnishing conclusive evidence showing the scientific practical value of the theory of dynamization of medicinal and non-medicinal substances, if any such curative power existed therein; and

WHEREAS, No satisfactory reasons have been adduced in support of this fanciful theory, and no trustworthy evidence of its claim for homeopathic endorsement has been furnished; therefore,

Resolved, That we deem the theory of dynamization to be essentially non-homeopathic and while occasionally, from a psychological point of view, it may be appropriately applied in practice, in the opinion of this society it is still so obscure as to its origin and development, so uncertain as to its application, and has so little apparent connection with the proper application of similia as to warrant the conviction, after repeated and carefully conducted trials continued through many years, that it is unworthy the confidence of the homeopathic profession, and being non-homeopathic should not receive the endorsement of the homeopathic school."

Poor old dynamization, after being a tried and true friend for nearly three-fourths of a century, you are thrown aside, but should you be needed "from a psychological point of view" you will be used, no matter if you are "non-homeopathic" and cannot be endorsed by the homeopathic school."

In the second "Whereas" they should have added, after "neither consistent with the principles of the homeopathic school" *of to-day*. The homeopathic school of to-day is consistent in nothing but its inconsistency.

Imagine old Hahnemann turned over in his coffin and groaned at this pull at the homeopathic flag.

In 1879, not being satisfied with the resolutions of the year before, they tried it again. It is not necessary to give the whole resolution. Here is a part:

Resolved, * * That we have not in the past, nor do we now, yield one title of our rights as physicians to use any means or appliances of the general profession to aid in the treatment of our patients (under homeopathic law)."

How true! Give it credit for that, because they did not in the past nor do they now yield one title of their right to steal from the general profession and call their ill-gotten gains homeopathic. They, in that clause, renounce homeopathy entirely, absolutely, because instead of adhering to Hahnemann and his teachings they propose to use "any means". Hahnemann tells them what to use and how to use it. Why do they call themselves homeopathsists? They are *not* homeopathsists and Hahnemann would not recognize them if he were alive or consult with them either.

A little more from this same resolution and we will leave it. It reads, "But, as we have not been able to deduce a law to guide us in determining the amount of a drug to be used, etc." They acknowledge that after all their vaunted skill and heavenly cures they do not know in what doses to give medicines. We are to suppose that in regard to giving medicines they "trust to luck and stare fate in the face," and have been doing so all these years. Why will they go back on Hahnemann and his Organon? Hahnemann tells them how much to give and how to give it.

As an excuse for leaving so many of Hahnemann's tenets they say "we are advancing." Not so, when they advance they are not homeopaths; there can be no advance in homeopathy. Hahnemann carved it out seventy-five or more years ago and the man who advances mars the carving and spoils homeopathy. Hahnemann completed the work and a complete job cannot be added to without spoiling its symmetry. A man who does not practice just as Hahnemann teaches and according to the rules by him made is not a homeopathist and assertions to that effect will be found in this paper from members of the so-called homeopathic school.

If there are any true homeopathsists, men who are honest in their beliefs and who practice as they preach, they are to be respected, but a man who preaches one

thing and practices another is abhorred by right minded people and has not much respect for himself.

A few years ago (1878) the New York County Homeopathic Medical Society passed the following:

"*Resolved.* That in accordance with other existing associations which have for their object investigations and other labors which may contribute to the promotion of medical science, we hereby declare that, although firmly believing the principle "*similia similibus curantur*" to constitute the best general guide in the selection of medicine, and fully intending to carry out this principle to the best of our ability, this does not debar us from recognizing and making use of the results of any experience! And we shall exercise and defend the inviolable right of every educated physician to make use of an established principle in medical science, or any therapeutical facts founded on experiments and verified by experience, so far as in his individual judgment they shall tend to promote the welfare of those under his professional care."

Dr. Samuel Swan, one of the members, said that "that resolution was a death-blow to homeopathy, a lowering of the flag * * Outsiders will look upon it as a confession of weakness and an admission that Hahnemann was wrong and homeopathy a failure. It is an acknowledgement that homeopathy is not an art of healing founded upon a natural law but a theory, an idea, a suggestion that is pretty good in some cases, a failure in others, a good rule to go by but not to be depended upon. It is only consistency and adherence to principle that commands respect and the standing of homeopathsists can only be advanced by continuous successes in practice. If a patient calls a physician as a homeopath, and the physician treats him in a manner not in accordance with or narrated by the tenets and principles of the school as given by Hahnemann, the patient can not be compelled to pay for his services, nay, more, if he is injured by such treatment and can substantiate his damages, he may recover on the ground of malpractice."

Dr. S. Lilienthal, also a member, said "that Dr. Swan himself was not an exclusive homeopathist in his practice. * *

"He (Lilienthal) did not believe that there were more than one or two homeopathic practitioners in New York and not

more than that in Philadelphia who understood the materia medica. He had avowed bleeding a patient who was dying of pneumonia and thereby gave him relief and supposed that *certain* doctors would have refused to do so and when the patient died under their treatment, would have been satisfied that homeopathy had done all that was possible."

Dr. Edward Bayard, another member, said "the resolution justifies and encourages members of the society in practicing principles and expedients in cure not under homeopathic laws. Can this be right in a society avowedly homeopathic?"

He further said "I see upon the faces of our allopathic brethren the smile of derision. They will say the distinct ground which you took and made the difference between us was an invidious distinction, having at its bottom self aggrandizement. The vantage ground you took so boldly you cannot maintain. Your vaunting colors that you raised so high you have brought to half mast. Homeopathy is dead."

Dr. J. C. Minor followed Dr. Bayard, speaking in favor of the resolution, and among other things said "although we firmly believe the principle "*similia similibus curantur*" constitutes the best general guide to the selection of remedies, we are educated physicians, and as such we own what we know whether it belongs to homeopathy or not. We believe education qualifies a physician to use his own judgment and we defend his right to the utmost freedom of opinion and action on that ground."

Dr. E. B. Fowler spoke in favor of the resolution, saying "the general public understand no difference between a homeopathist and a homeopathist pure," and wound up his remarks by asking "is there in this room one homeopathist pure?" Three out of the sixty members present answered yes.

Space forbids me giving any more of the discussion. The resolution was adopted and homeopathy received another blow at home.

Dr. Swan claimed to be a homeopathist but could not make his friend Lilienthal believe it; he did not want to acknowledge by voting for that resolution that he was a homeopathic quack or a quack practicing medicine under the cloak of homeopath as you please. He also implies that a man

who does not practice "in accordance with or narrated by the tenets and principles of the school as given by Hahnemann" is not a homeopathist, and further "it is only consistency and adherence to principles command respect." Certainly a centre shot at the hypocrites.

Dr. Lilienthal showed his manhood and honesty by favoring the resolution and did not believe there were many homeopathists.

Dr. Bayard did not like to be laughed at by the allopaths. This seemed to worry him more than adherence to principles. He would not support the resolution.

Dr. Minor expressed more than he thought when he said "we are educated physicians and as such we own what we know." Or, in other words, an educated physician can not be bound by a few dogmas nearly an hundred years old: education ruins homeopathy. An ignorant man makes a good homeopathist because "education qualifies a physician to use his own judgment" and when he does that, not in accordance with Hahnemann's teachings, he is not a homeopathist.

In this connection it would be well to mention that the homeopathists of Michigan asked the Legislature of that State for the removal of the homeopathic branch of the State University, saying it "was a failure because the allopathic department was old and well-established and monopolized the best sentiment of the place." Some time since essentially the same thing occurred at the University of Vienna. The conclusion, says the *Medical Record*, "to be drawn from these facts is, that wherever homeopathy is allowed to come out and display itself to intelligent students, by the side of regular medicine, it very soon attenuates and collapses. On the other hand, it is denied the opportunities that have been furnished it for the cry of intolerance and persecution which have assisted it so materially hitherto." We all know how they have played the baby act and posed before the public as martyrs and we also know that they have thrived by it. The way to kill off homeopathy is to give it an equal chance with allopathy. Had this been done years ago the corpse would now be mouldy.

"Straws show which way the wind blows"! Here is a straw. The authorities in charge of the Sacramento County (Cal.) Hospital discharged the homeopathic superintendent because he was so extra-

gant in his use of opium, quinine and other drugs, and appointed an allopathic superintendent as a stroke of economy!

The fact that homeopaths often send their students to allopathic schools and offer as prizes, for excellency in their own schools, works by allopathists, is acknowledgement of weakness somewhere.

The following deductions can now be made from the homeopathic writings contained within these pages:

1st. That, according to their own testimony, homeopathy has become the synonym for hypocrisy and false pretenses in the practice of medicine.

2d. That, according to their own testimony, a man of education and broad views cannot practice homeopathy.

3d. That, according to their own testimony, a man in order to be a good homeopathist must be ignorant and narrow-minded.

4th. That, according to their own testimony, Hahnemann made a great mistake when he founded this species of medicine.

5th. That, according to their own testimony, allopathy is right and the only true science of medicine.

6th. That, according to their own testimony, they are willing and anxious to embrace allopathy and be recognized as "medical men and gentlemen."

7th. That, according to their own testimony, homeopathy is fast becoming, if it is not now, extinct.

This testimony is not from individuals but from recognized bodies of homeopathists, except Dr. Wyld's letter, and in that he claims to express the sentiments "of a large number of" the British Homeopathic Society, of which he was vice-president.

No exceptions can be taken to the contents of this paper by the true followers of Hahnemann for whose consistency the writer has profound respect.

DR. HENRY G. PIFFARD has again gone back to the University Medical School, New York, having received the appointment of clinical professor of dermatology. Drs. F. R. S. Drake, Joseph E. Winters, N. M. Shaffer, and P. A. Morrow, instructors in the same college, have been promoted to be clinical professors respectively of medicine, diseases of children, orthopædic surgery, and venereal diseases.



RANUNCULUS BULBOSUS—Crowfoot.

[From "The Drugs and Medicines of North America."]

RANUNCULUS.

By C. G. LLOYD, Cincinnati, Ohio.

The accompanying engraving will be at once recognized by those of our readers who reside in the Eastern States as a most common weed in fields and sandy soil. Its name is *Ranunculus bulbosus*, and, like many other of our weeds, it is a foreigner which has established itself against the wishes of our farming community. The flowers are of a bright, glossy yellow, and in some places the plant is so abundant that when in bloom the fields present one mass of yellow. The species figured blooms in the spring, but is succeeded in summer by another species which closely resembles it, the *Ranunculus acris*. This latter plant also comes from abroad, but is firmly established in the Eastern States. The farmers of the Central and Western States can well congratulate themselves that the progress of these plants westward is slow and that they are not common as yet at any great distance from the ocean.

Ranunculus is a very large family of plants of which we have over fifty native species. They differ much from each other in habits and appearances, and yet many of them can be at once recognized by a general resemblance to the species of the engraving. Those with large yellow flowers are popularly known as "buttercups."

The medical properties reside in an acrid oil which is more or less abundant in all the species. This oil is volatile and this accounts, no doubt, for the fact that the plant is but little used as a drug. In order to have any efficacy the plant must be tinctured when fresh.

When distilled with water the fresh plant yields an abundance of a peculiar substance known as anemonin, the nature of which has been generally misunderstood. Erdmann states that anemonin is produced by the decomposition of the peculiar acrid oil, but the experiments of Prof. J. U. Lloyd, who has recently been investigating the subject, tend to show that the converse of this is true; that anemonin under the influence of a peculiar ferment decomposes and that one of the products is the acrid oil. Anemonin is certainly a very peculiar substance; it does not pre-exist in the plant; it is produced by distil-

ation, but is not volatile and cannot again be distilled; it is neutral and devoid of acrid properties, and yet can be decomposed, one of the substances formed being an acrid product.

NOTE. — The illustration accompanying this article is taken in advance from the July number of the "*The Drugs and Medicines of North America*," published by J. U. & C. G. Lloyd at 180 Elm Street, Cincinnati, O. Price, \$1.00 per year.

THORACENTESIS.

THREE GALLONS OF PUS REMOVED AT ONE SITTING.

By W. S. HOY, M. D., Point Pleasant, W. Va.

I take great pleasure in reporting very briefly a most singular case that came under my care, and, so far, in my professional experience, I have never met with one so difficult of diagnosis or presenting the strange symptoms, nor even an operation of this magnitude. The patient, Mr. I. Curry, age twenty years, mechanic and farmer, came from the West, was sent here to see relatives with expectancy of dying from consumption. I was first called to see patient June 5, 1884, and found him suffering with a most troublesome cough, great prostration, dyspnoea with frequent asthmatic attacks, respiratory efforts labored, breathing partly abdominal, slight rectal hemorrhages, countenance cadaverous, eyes at times prominent, nostrils greatly dilated; the sterno-cleido-mastoid muscles projected in their inspiratory efforts, shoulders elevated and drawn forward, great bulging of the infraclavicular and mammary regions ("cask shaped"), the whole chest moved vertically down and up with each respiratory effort. There was a noticeable sinking in of the soft parts above the left lung and at a point near the sternum; the upper intercostal spaces, particularly on the left side, were slightly widened. The heart, I found to be far to the right side, in fact the impulse was distinctly felt near the right nipple, although with feeble sound. There was a most constant pain low down in the left lung, which last symptom was never absent.

These are my notes of this case, and in truth I must confess I came to the conclusion at the bedside of my patient that I was about to deal with a case of emphysema,

but why this constant pain low down in the lung? and that certain strange symptoms should so frequently intervene I could not for the life of me understand. In one or two days this emphysematous condition completely disappeared, but that pain, low down in the left lung, grew more severe; "heroic" doses of morphia could not give any relief. The patient continued to grow worse from day to day, the breathing became more and more interrupted and the heart's action was greatly disturbed. In fact, on the morning of the 15th of June, 1884, ten days after having made the above notes, I was summoned to come to the bedside of my patient at once, as he was dying. As soon as my carriage could be ordered I proceeded at once to my office to get my surgical cases of instruments, for, on the previous night I had told the family I *feared an abscess in the lung was certainly the result of so much pain.*

On my arrival at the residence of Mr. Curry I found him rapidly sinking, in fact death was expected before two hours. There was that labored breathing, cold hands, feet and knees, with a cold clammy perspiration and eyes set. I spoke to my patient but he could make me no reply. I then informed the family that, as death was certain within a very short time, I would like to satisfy myself before he died whether or not the lung did not contain pus to an enormous degree, and that perhaps an operation might do some good. They very kindly and readily consented, and, as I had no time to lose in sending for consultation and the patient was too near death to require an anæsthetic, I began a novel surgical operation. I cut down to the ribs on the left side, then introduced a long curved trocar up the side of the ribs until I came to the sixth rib, when I thrust the trocar and canula into the cavity of the lung. At first there was a rapid escape of air, but by a gentle pressure of the instrument, it entered still deeper, until, all at once, out gushed the matter. I had expected to find perhaps a pint, but, imagine my great surprise, when, after the discharge began ceasing, three gallons of the most offensive pus I ever saw had escaped from my cut into the lung cavity. I began rapidly to stimulate my patient, and as the pus was escaping I could distinctly see the heart's impulses changing their position, until at last it

could be seen and felt in its natural position.

After the operation had been performed, but the matter still escaping, I came in my carriage and requested my former partner, Dr. L. F. Campbell, to visit the case with me. On our return we found the patient rallying, and the Doctor in his cool but deliberate reasoning felt, as did I myself, that the boy could not certainly pull through, but day after day, since the 15th of June, he has continued to grow better, and is now able to be taken out in his carriage with great hopes of a speedy recovery.

I have made no attempt to discuss or argue this case. I merely give the profession the plain facts and my notes of the operation. Whether I am the first to perform successfully this operation or if this is the greatest quantity of pus ever drawn from the lungs I cannot tell.

ON A FORM OF NUMBNESS, CHIEFLY OF THE UPPER EXTRE- MITIES.

A Paper read before the College of Physicians and Surgeons Philadelphia, June 4, 1884.

By WHARTON SINKLER, M.D.

For several years I have observed in my service at the "Infirmary for Nervous Diseases" in this city, and occasionally in my private practice, quite a large number of patients whose prominent symptom was numbness of the hands.

The symptoms in these cases are quite regular and constant in their general characters. The patients are usually women—at about the change of life,—although cases may occur in men as will be seen from the instances given below.

The numbness generally begins in one or both hands and gradually extends up the arms. It may be felt in the feet and legs also. It is almost always most marked in the morning before the patient rises.

It is described as a "tingling," and "like pins and needles," or as if the limb "were asleep."

One patient, in whom the numbness was felt in both upper and lower extremities said she felt like "a sleeping fool." Notwithstanding the numbness, there is but little loss of feeling to touch or pain, and usually the compass points are distinguished as readily in the affected part as in other portions of the body.

The numb member is weak, but there is no paralysis, and the weakness is transient. Often there is pain associated with the numbness. The patients sometimes think the hands are swollen at the time when the numbness is most marked.

I will give briefly the histories of some typical cases of the affection. It must be borne in mind that I do not consider all cases of numbness as coming under this head. There are many cases of numbness met with which do not depend upon organic lesions of the nervous centres and yet differ from those which I am now considering.

CASE I.—Hannah R., æt. 30 years, single, coat maker, applied at Infirmary for Nervous Diseases February 6, 1872. Complains of numbness and pain in both hands and arms. It began three weeks ago in the hands, and the attacks now extend above the elbows. They are induced by sewing, and also come on at night. The numbness and pain begin to the ulnar distribution of the right hand and then extend to the rest of the hand and up the arm. In the left hand it is confined to the forefinger. Sensation is accurate in the affected regions. The ulnar distribution is affected readily by slight pressure over the course of the nerve. Some tenderness over the median nerve.

There is no spinal tenderness. The pulse is feeble, and there is a slight murmur heard at the base of the heart. There is some rheumatic stiffness of both wrists and decided difficulty in moving the right shoulder.

Under the use of galvanism and a very strongly stimulating liniment to the arms, the patient was entirely relieved of the numbness and pain.

CASE II.—Letitia M., æt. 48 years, applied at the Infirmary for Nervous Diseases July, 1878.

Has always been a healthy woman, and has no history of rheumatism. About one year ago noticed numbness in the right hand; at first in the thumb and first and second fingers, and occasionally in the other fingers. In the beginning it was felt only on rising in the morning, but latterly it has remained all day in the first and second fingers. It is always worse in the morning. About two months ago, she noticed pain at the base of the thumb like a sprain. It comes on with any movements of the arm, and ceases when the limb is at rest. Any

movements which require pressure with the thumb bring on pain. There is slight pain on pressure over the median nerve. Sensation to touch and the compass points in the hand and arm are normal.

CASE III.—Catharine O'C., æt. fifty, washerwoman, applied at the Infirmary for Nervous Diseases June 22, 1880. Catamenia have ceased for some time. Six months ago began to have numbness in the hip, which extended down the leg. Has had an attack in the right hand. It is worse in the mornings.

Dynamometer, right 90, left 70.

Ordered ext. ergot. fld. gtt. xx t. d.

July 14. Returns saying that she is much better.

CASE IV.—Mary M., æt. 60 years, applied at the Infirmary for Nervous Diseases September 14, 1880. Two years ago was cutting grass with scissors when she injured the forefinger of the left hand. This was followed by numbness of all of the fingers, and extended up the arm. The numbness and tingling are now in both arms. It is also felt in the legs. It is most marked at night when the patient is in bed especially if she lies upon her back. The sensibility of the fingers is good, but there is slight loss to compass points. The numbness is most marked in the second and third fingers. The hands feel weak. Dynamometer, right eighty, left eighty-five. Ordered ext. ergot. fld. flzss t. d.

October 13. Much better. Dynamometer, right 100, left 100.

Decrease ergot to gtt. xx t. d.

26th. Not so well. Increase dose of ergot to gtt. xl t. d., and apply mustard plasters over spine every night.

December 8. Dynamometer, right 115, left 100. Numbness very much less.

The patient continued to improve, and when last seen in May, 1882, stated that she was greatly relieved of the numbness, although it still occurred at times. If she allowed the arms to lie close by the sides when asleep, they became numb. If they were extended this did not take place.

CASE V.—Mrs. B., æt. fifty, nurse, applied at Infirmary for Nervous Diseases November 25, 1881. Menopause eighteen months ago. Is in good health with the exception of numbness of the hands, which began several years ago. There is no assignable cause for the numbness. The numbness is always in the ulnar distribution, and occasionally in the median dis-

tribution of hand and extends up the arm. It is decidedly most marked in the left hand and arm, and is occasionally felt in the left foot. The position of the arms had no influence in bringing on an attack of numbness, but prolonged exertion of the arm will induce it. There is always loss of power of the arm after the numbness has passed off. The dynamometer shows a difference of 20° in favor of the right hand. Patella reflexes are good; heart normal.

CASE VI.—Mrs. J., æt. fifty-one, applied at Infirmary for Nervous Diseases February 28, 1884. Two years ago used her right hand very much. Then began to have numbness in the fingers and hand. Following this, there was a burning pain. Her general health has been good, but she sleeps badly. The numbness begins in the fingers, and it is followed by a burning pain which also begins in the fingers, and extends up the arm as far as the elbow. It is most frequent in the early morning.

There is slight tenderness on pressure of the ulnar nerve at the elbow.

No loss of sensation to touch or to compass points. Dynamometer, right eighty, left ninety-five. Ordered ext. ergot fld. gtt. xx t. d.

February 25. Returned, saying that the numbness and pain are much relieved. Continued same treatment.

March 10. For the past few days symptoms have been worse. Is sleeping badly. Ordered to stop ergot and take sodii bromid. grs xv. t. d.

April 17. Reports that she was not so well while taking bromide. Returned to ergot of her own accord yesterday, and slept well last night. The numbness is also much less.

CASE VII.—Mrs. M., æt. fifty, widow, consulted me July 13, 1881. Has enjoyed good health and worked hard until recently. Catamenia regular until three years ago. Then she began to have numbness and pricking of the feet, with starting of the legs while in bed. The numbness then extended to the hands and arms. Numbness is now worse in left arm, but a month ago the right arm was most affected. The wrists are painful, and feel as if sprained. If the arms hang down the numbness is increased. The hands and legs become swollen. She has frequent "flushes of heat" through the whole body, and she then becomes flushed and warm, the sweat starting out freely. Her sleep is interrupted

by the starting of the legs. She is a stout, florid woman; has a good appetite and no dyspepsia or constipation of the bowels. The urine was found to be free from albumen. She is very nervous and often has headaches. The symptoms were markedly relieved by bromide of sodium and ergot.

CASE VIII.—Charles E. S., æt. thirty-four, carpenter, applied at the Infirmary for Nervous Diseases August 30, 1878. For a year he has a sense of general fatigue, and for several months has had pain in the right shoulder. He has worked very hard both mentally and physically for some years. Since last fall has felt very sleepy all the time. A few days ago noticed twitching of the right hand, and at night was awakened by pain and numbness in the palm of the hand and twitching of the fingers. Since that time the numbness and pain have continued, but are worse when he lies down, so that he is prevented from sleeping. He has had pain in the cervical region of the spine. The patient is obliged to use the right hand a good deal, as, for instance, in planing, and this brings on the attack of pain and numbness. On examination no twitching is seen, but the patient says there is a feeling as if the fingers were twitching. There is no loss of sensation in the right hand to touch or compass points. The right hand has become weaker. Dynamometer, right 130, left 130. Appetite poor; tongue furred; tendency to diarrhoea. The urine is free from albumen.

Ordered potassii iodid. gr. x, vin. ergot, f 3j t. d.

September 6, 1878. Is better. Can sleep now, but is awakened about 5. A.M. by pain and numbness in the right arm and shoulder.

11th. Improving, but the early morning pain and numbness continue. Increase wine of ergot to f 3iij t. d.

18th. Now sleeps very well. No early morning pain and numbness.

This patient remained under treatment at intervals until September, 1881. He had occasional relapses; the attacks being almost invariably brought on by over use of the hand. At times the numbness extended to the right leg. The pain in the back of the neck was sometimes felt. The last note of the dynamometer was right 155, left 150. The treatment consisted in the free administration of ergot, and after the subsidence of the symptoms, phosphorus, strychnia, and iron were given for

long periods. Blisters were applied on the cervical spine several times.

CASE IX.—Mr. H. P. M., æt. thirty, married. This patient had an attack of poliomyelitis anterior in 1877. I related his case at length in the *American Journal of the Medical Sciences* for October, 1878. He made a complete recovery from the paralysis, and enjoyed excellent health until March, 1883. At this time he came to me complaining of numbness in the hands. The attacks came on in the early morning, and would waken him from sleep. At first he ascribed it to sleeping with his arms extended above his head, but it continues to occur no matter in what position the arms are. The patient is in good general health. No indigestion or rheumatism. The sensation in the hands is normal, the grip is weaker than before the numbness began. Dynamometer, right 156, left 120. He complains of an area of coldness in the right thigh above the knee. There is no anæsthesia or numbness in this region.

This case was treated at first with iodide of potassium and massage, and later with strychnia. The symptoms were gradually relieved, and the strength of the hands returned. On April 7, 1879, dynamometer marked right 160, left 130.

He still had occasional returns of numbness until October 1883. At this time, however, the numbness was confined to the tips of the fingers, and did not disturb him until late in the morning.

Mr. M. consulted me again on March 17, 1884; he stated that he had remained free from numbness until lately. The attacks came on as before, *i.e.*, in the early morning, waking him at about 5 A.M. The numbness is worse in the right hand, and this hand is relatively weaker than the left. Dynamometer, right 142, left 136.

The hands feel as if they were swollen in the early morning.

Ordered ext. ergot. fld. gtt. xxx t. d.

April 4. Patient reports improvement. Numbness comes on later in the morning. Now ordered strychnia sulph. gr. 1-50 t. d. Ergot stoppd.

26th. Better; sleeps until 6 A.M., but is then wakened by the numbness. Stop strychnia. R. Syr. d'ergotinine (Tanret's) f3j t. d.

May 6. Patient thinks last prescription has had more decided influence in relieving the numbness than anything he has taken;

the numbness comes on later every day. Dynamometer, right 158. left 142.

19th. Patient now has no numbness.

It will be seen that of the female patients whose cases I have given, their ages were between forty-eight and sixty years, with the exception of one who was thirty years. In this case the disorder was induced by the nature of her work, which was constant and hard sewing. The ages ranged as follows:—

1 aged 30 years.	1 aged 51 years.
1 " 48 "	1 " 60 "
3 " 50 "	

In two patients, Cases I. and VII., there were evidences of rheumatism, but in none of the others were there any symptoms of rheumatic trouble. In Cases I., IV., and VIII., the origin of the trouble seemed to be in overuse of the limb first affected. Indeed in Case VIII. the affection at first seemed like a low form of an ascending neuritis, but afterwards the symptoms were more general. Most of the patients were in good general health, but some were anæmic or over-worked.

The numbness in most instances was in both arms, occasionally it was found in all of the limbs, and in three cases in one arm alone. The ulnar and median distributions were most frequently affected.

Pain was associated with the numbness in several patients. It was not an acute pain like neuralgia, but as one patient expressed it, like the pain which comes when a limb is getting over being asleep. Tenderness over the ulnar or median nerve was observed several times. There was usually some loss of power in the parts involved. The dynamometer showing several degrees difference between the hands in the cases when only one limb was affected. The duration of the affection was from a few months to several years. One of the patients had suffered from the disorder for two years before coming under observation, and at the end of a year and a half still had occasional attacks.

Dr. Weir Mitchell, in a lecture on "The Symptom Numbness,"⁽¹⁾ and later in a chapter in his work on *Diseases of the Nervous System*, has described several varieties of numbness. Most of his cases were in anæmic or hysterical persons, and the symptom yielded under a course of treatment which tended to improve the nutrition and

morale of the patients. He refers to cases in which the numbness came on during sleep, and remarks that this is a form "which belongs to the night." He finds that the numbness in the cases he has seen is frequently hemiplegic in character, and alludes to the fact that "some persons who have gotten pretty well of a hemiplegia of organic cause are liable to waken out of sleep with numbness and lessened power of the side once palsied."

Dr. James J. Putnam, in a paper read before the American Neurological Association,⁽¹⁾ treats at length of a series of cases of "paræsthesia mainly of the hands." He bases his paper upon the notes of thirty-one cases, and the description he gives resembles those which I have related. He finds that most of his patients were women, and almost all were in middle life, but he does not remark upon the fact that they were about the period of the menopause.

Dr. Putnam suggests that the possible cause of the affection is, "alterations of the blood-supply of the smaller branches or terminal filaments of the sensitive nerves supplying the affected districts."

The treatment of this writer consisted in the use of galvanism, phosphorus, strychnia, bromide of potassium, and several other drugs. He did not think that he had had sufficient opportunity to test the value of the different remedies, but seems to have found phosphorus of more value than any other one mean used.⁽²⁾

Dr. J. A. Ormerod has described twelve cases⁽³⁾ which very closely correspond to those which have come under my observation. All of his patients were women, and the attacks of numbness began to come on about the cessation of the menses. Three of his cases were rheumatic, and in some the trouble proceeded from the nature of their work. Bromide of potassium afforded marked relief in many of the cases. Dr. Ormerod compares this affection to the deadness of the fingers which some persons experience after exposure to cold, and therefore ascribes it to vascular spasm.

It has seemed to me that in these cases there is probably a condition of hyperæ-

mia either of the nerve trunk or of a portion of the cord. In some cases I think the hyperæmia is confined so the nerve trunks or to some of the terminal filaments of the sensory nerves, but in others it seems not unlikely that the cervical enlargement of the cord becomes hyperæmic or congested, from the fact that the numbness is often bilateral. The circumstance that the affection comes on at night seems to me to strengthen the view of the pathological condition being one of hyperæmia, for the supine position favors an increase of blood in the cord and the nerves of the extremities. I have seen patients in whom the numbness would come on if they lay down and fell asleep even for a short time in the day.

Women at the change of life are more prone to hyperæmias and congestions than at other periods of life, and they are the most frequent subjects of this form of numbness.

In several of my cases ergot gave marked relief, and Dr. Ormerod found bromide of potassium the most successful therapeutic means he used. Both of these remedies are believed to diminish the blood supply in the nervous centres. It is true that Dr. Putnam found phosphorus the most useful drug in his cases, but in one of those which he reports the remedy failed, and another was relieved by bromide of potassium.

From my experience in those cases I should say that the prognosis in middle-aged women was not good for permanent relief. The numbness can generally be greatly benefited or stopped for the time, but it is liable to return. In those cases where the trouble has been induced by overwork of the part one can almost surely promise permanent cure if the cause can be removed.

With regard to treatment, as indicated above, ergot has proved the most useful medicinal means I have employed. Massage and spinal galvanism are always useful adjuvants, and so are all means which improve the general health. Bromide of potassium has helped some of my cases, and one patient was much benefited by sinapisms over the spine. It was found advantageous in most of the patients to give strychnia for a time after the disappearance of the numbness.

The LANCET & CLINIC and OBSTETRIC GAZETTE to one address one year for \$5.00

1. Arch. of Medicine, vol. iv. No. 2, Oct. 1880.

2. In a note recently received from Dr. Putnam, he says that he has lately found lead in the urine of one of the patients referred to in his paper, and thinks that it should be looked for in all cases of numbness.

3. Saint Bartholomew's Hospital Reports, 1883.

Correspondence.

FOREIGN CORRESPONDENCE.

GÖTTINGEN, JUNE 4, 1884.

Editor Lancet and Clinic:

University examinations for the degree of Doctor of Medicine are held at any date between November and July. The examination of each student extends over many days, and is divided into five parts:

1. Anatomy, physiology, and pathological anatomy.
2. Surgery and ophthalmology.
3. Medicine.
4. Obstetrics and gynecology.
5. Final examination.

In Goettingen the examination in anatomy is conducted by Prof. Henle who first questions in osteology, then about visceral anatomy and the student must demonstrate the corresponding viscus which is handed to him. He is then given some preparations of the nervous system, which he must take away, dissect, and demonstrate before the professor at the next meeting.

In the physiological examination the candidate is questioned in histology and physiology, then he must prepare and demonstrate some histological specimen handed to him in the presence of Prof. Meissner, so as to show his acquaintance with the microscope. Prof. Meissner also requires some original investigations in physiological research.

In the pathological examination Prof. Orth assigns to the candidate an autopsy of the whole, or at least of part of the body, whereupon he must carefully note down all pathological changes and read them to the professor at some subsequent meeting. A demonstration of a pathological specimen is likewise required.

The medical and surgical examinations are very thorough, and each requires a whole week. In the presence of Prof. Koenig the candidate must examine a patient, discuss the etiology, diagnosis, prognosis, and treatment. He must take charge of that patient for a week, write out a full history of the case, record it each day, and then he is questioned in the wards about other surgical cases, must describe certain operations, and perform them on the cadaver, and must finally undergo a separate examination in fractures and dislocations. In the ophthalmic examination he must examine eye diseases similar to surgical cases.

Prof. Leber is very strict in his examinations.

The medical examination is conducted in the same way as the surgical one. Prof. Ebstein, the examiner, lays great stress on physical examination, taking of history and symptoms, and but little attention is paid to doses of medicine. In the physical examination every organ is carefully examined, lungs and heart percussed and auscultated with great exactness, boundary of latter to right and left made out by percussion and palpation-percussion, (palpatorische percussio) likewise the liver, etc. This latter method of examination is known in German works on physical diagnosis as the "Ebstein Resistenz-bestimmung's Methode," and consists in determining size and shape of organs by the resistance which they offer to the finger-finger percussion, although more use is made of the pressure of palpation than of the ordinary percussion stroke. This method of determination of resistance offers some difficulty to the beginner, but the fingers are easily trained and it well repays some practice upon patients, as it is much more exact in estimating size of viscera and neoplasms than simple percussion. It is especially applicable in heart examinations, as by means of it not only the portion of the organ uncovered by lung tissue, but the cor as a whole, even the upper and right half so covered, can be detected to a much greater certainty than by mere superficial and deep percussion, when in the latter from the amount of force necessary to elicit cardiac dullness, and even then having more or less of a pulmonary quality, some doubt always remains as to the exactness of the derived conclusion in regard to hypertrophy, dilatation, etc. It seems to me to be of very great importance, equally as great to definitely, for self-evident reasons, determine size, position of heart as to obtain its auscultatory phenomena correctly. Likewise by means of it only in many cases other organs and tumors not in contact with walls of abdomen or thorax can be definitely bounded and any alteration discovered, while true percussion is at once useless when any media, air, fluid or solid, intervenes between them and parietal walls, or may lead to false diagnosis by having partially pushed them from the walls. But to continue: the German student's hardships before he finishes his glorious student-career, and is beyond that tussle so much feared by us all, the examination.

In the obstetrical examination Professor Schwartz presents a woman in labor, and the candidate must make the diagnosis of the period of labor, position of child, prognosis, and must conduct the labor, whereupon he must write out a full history of the birth. He is given, in addition, a number of obstetrical and gynecological cases which he must examine in the wards for a number of days and report results; finally, he must perform obstetrical operations upon the phantom.

The final examination is an oral one, conducted by the entire medical faculty, and embraces all branches and tests his general medical knowledge. It is customary for the candidate to present himself for final examination in a dress suit, and it is considered the proper thing on the evening previous to the final examination to call, in dress suit, on the professors. OTTO W. FENNEL.

Society Reports.

PROCEEDINGS OF THE ILLINOIS STATE BOARD OF HEALTH.

The regular quarterly meeting of the Illinois State Board of Health was held in its rooms in the Capitol Building, at Springfield, on Wednesday, July 2, 1884.

Present, at the morning session, Drs. Haskell, McKensie, Kreider and Rauch, Dr. Haskel presiding in the absence of the president; and at the evening session, in addition to the above, Newton Bateman, the President, in the chair.

Dr. Geo. N. Kreider, of Springfield, appointed to succeed Mr. Reen, of Peoria, resigned, was introduced to the members, and took his seat with the Board.

The minutes of the last meeting, April 17th and 18th, were read and approved, after which the regular order of business was suspended and the Board went into executive session on certain cases of colleges and practitioners under the Medical Practice Act.

During the evening session the following quarterly report of the Secretary was presented:

QUARTERTY REPORT OF THE SECRETARY,
April 1 to June 30, 1884.

During the quarter ending June 30, 1884, there were received in the Secretary's office 604 communications, letters, papers, etc., exclusive of 197 diplomas submitted for verification, and the affidavits and other

papers accompanying applications for certificates in 226 cases. There were sent out during the same period 327 letters, postals, circulars, etc., and other communications, and the usual quantity of the Board's publications — reports, registers, preventable-disease circulars, epidemic disease blanks, forms of ordinances, etc. Two hundred and forty-two packages were received, and 112 sent out by express. Seventy-three telegrams were received, and 102 sent.

Certificates entitling to practice medicine and surgery under the Medical Practice Act were issued to 170 graduates upon diplomas of colleges which have complied with the requirements of the Board entitling them to be classed as in good standing, and to four upon length of practice in the State. Under the authority conferred upon the Secretary at the last meeting, seventeen applicants for certificates, holding diplomas of colleges which had not fully complied with the Board's requirements, have been notified that they would have to submit to examinations upon the branches or subjects omitted by their respective schools. In nine of these cases the applicants have already been examined and certificates issued. Five of these were examined in hygiene only; three in hygiene and general education, and one on all the branches, including general education. Three declined to appear to be examined, and have left the State, and the remaining five are now awaiting their examination.

Examinations of five midwives have been made, and certificates issued to three of these who passed successfully, and seven to others upon diplomas or licenses or other recognized credentials.

The Medical Practice Act.—Since the last meeting of the Board, the Dr. C. Buell Rice, to whom a certificate was refused at the special meeting of January 30th, has been tried and convicted of practicing in violation of the Medical Practice Act. The case was tried in the Sangamon County Court, May 19th, before his Honor, Judge Matheny. The defense set up the plea that being a graduate of a "legally chartered medical institution in good standing," the defendant was entitled to a certificate, and that it was not competent for the Board to enquire into the moral or professional character of such graduates. On the part of the prosecution it was shown that charges had been presented to the Board alleging that Rice was in the employ of and

associated with the "Drs. K. and K., Surgeons," a firm of advertising quacks of Cincinnati and elsewhere, and that in various ways connected therewith, as recited at the special meeting, January 30, his conduct was unprofessional and dishonorable within the meaning and intent of the Medical Practice Act; that upon these charges the Board had refused to issue Rice a certificate until he had disproved the same; that instead of making any attempt at such disproof, Rice continued to practice, whereupon he was arrested for practicing without the necessary certificate. The facts were admitted by the defense, but, as already stated, the court was asked to dismiss the suit on the ground that it was obligatory on the Board to issue its certificate to the possessor of a genuine diploma of any "legally chartered medical institution in good standing," regardless of the moral or professional status of the individual. This the court declined to do, but found the defendant guilty, and assessed a fine of \$50.00 and costs. Notice of appeal was at once given by the attorneys for the defence, but this was subsequently abandoned, the fine and costs were paid, and the last representative of the "K. and K. Surgeons" has left the State.

While this decision again affirms the right and duty of the State Board of Health to inquire into and determine the status of individual practitioners, a decision by the Supreme Court of the State, rendered May 30, sustains the right of boards constituted as is the State Board of Health, to determine the status of a college. Under the Act to Regulate the Practice of Dentistry in Illinois, the Supreme Court refused the petition of a dentist, one Isaac N. Sheppard, for a writ of mandamus to compel the State Board of Dental Examiners to issue him a certificate or license based upon a diploma of the Indiana Dental College. The Board refused the license on the ground that the college was not a "reputable" institution. It was argued that the law constitutes the board judges of the standing of a college, and there is no power of review vested in any other body.

"If the Board should arbitrarily or unreasonably abuse their discretion and refuse a license without any reason therefor, there is a remedy for such abuse of discretionary power." But there was no ground for claiming that this was the case in the present instance. The Board, in its judg-

ment, had decided that the curriculum of study and requirements for graduation of the Indiana Dental College were not such as to entitle it to be classed as a "reputable dental college," and there is no power in the law given to any person or body to review or set aside or confirm the exercise of this discretion by the Board. The petition for a mandamus was, therefore denied.

It is also noted in this connection that two colleges which the Board has long refused to recognize as in good standing, have recently met with signal and final defeat in their efforts to secure a legal rehabilitation. The New York Court of Appeals has reaffirmed the judgment rendered by the Supreme Court of that State about a year ago, in the case of the United States Medical College of New York, setting aside the charter of that institution. As this appeal was understood to be taken as a test case by the attorneys for the Buffalo College of Physicians and Surgeons, this decision is to be regarded as conclusive on this college also.

There have been fewer complaints made direct to the Board, of unprofessional conduct, and fewer cases of this kind otherwise coming under observation during this quarter than ever before in the history of the Board.

The man, J. E. Anderson, of the "American Surgical Institute," of Indianapolis, previously run out of Paxton, Tolano and elsewhere, was arrested in Freeport on the 9th of May, for practicing in violation of the law. The case was clearly made out, Anderson pleaded guilty, a fine of \$50.00 and costs was assessed, which he paid and at once departed for his Indiana home. A list of some fifty of his victims in the northern part of the State, has been furnished me.

About the middle of June an itinerant by the name of Riley was arrested in Dixon for violation of the laws and was bound over for trial.

Two of the Chicago quacks arrested for circulating obscene and indecent literature through the mails, have recently been tried in the United States District Court and fined \$200 each, with costs. One of these offenses was an aggravated one, the vile pamphlets having been sent to school girls at various places.

I do not hesitate to pronounce the penalties inflicted in these cases as totally inadequate. Although the stereotype plates

and editions found were understood to have been destroyed, one of these men is again already distributing his "Hidden Secrets." The only way to suppress these violators of public decency and morals is to imprison them.

Medical Education.—At the annual meetings of the various medical organizations, state and national, which have been held during the past three months, the subject of the preliminary education of medical students has received more than usual attention. Almost unanimously, by the individual members of the profession, and by the various organizations as units (with one single exception), have pronounced in favor of exacting proof of proper preliminary education before admitting candidates to the lecture classes. There is practically no opposition to the movement, the only dissentients now remaining being a few members of college faculties, influenced, probably, by a fear of diminishing classes. With a few exceptions, and these diminishing in number from time to time, the better class of colleges have already adopted this requirement. Every announcement for the session of 1884-85 thus far received, makes this a distinctive requirement, but it is to be wished that the colleges would state specifically in their announcements the kind of examinations applicants would be subjected to, or the proof of fitting education required, instead of merely saying, as many of them do, "a preliminary education is required."

As illustrating the wide spread influence of the effort to heighten the standard of professional acquirements, it may be stated that at a recent meeting of the Nebraska State Medical Society the qualifications for admission to membership were so amended as to require that applicants must be graduates of colleges which in all respects conform to the standard of minimum requirements of this Board.

In the further interest of medical education I think it the duty of the Board to exert its influence toward securing legislation for the proper and adequate supply of material for the study of practical anatomy. Colleges in this State have been embarrassed during the past year or two in their efforts to properly instruct their students in this most important branch, and the difficulty is increasing. Surgical knowledge and skill can not be acquired without an intelligent, practical study of anatomy, and

in order to secure this, the methods and sources of the supply of material need to be more definitely recognized and regulated by law.

The Public Health.—Scarlet fever and smallpox prevailed to some extent during the first half of the quarter, mainly in the southern portion of the State. Except the few cases in Chicago, and those in Kendall county, all the smallpox cases occurred in the south half of the State, but scarlet fever was more generally diffused. Both diseases have been of a mild type, with a moderate death rate. As the season advanced there has been the usual increase in the diseases of hot weather, but not characterized by any noteworthy features.

Although eight cases of smallpox have been brought into Chicago from other places since January 1, 1884, only one case was contracted from any of these by a resident of the city. Three of the eight cases were Indians brought, in from the Indian Reservation; two were from Indianapolis; one from Cincinnati, and two from the town of Cicero, said to have been contracted from a tramp from Ohio. One of the Indianapolis cases reached Chicago four days before the appearance of the disease, and from him resulted the only case which originated in the city—a man with whom he slept one night contracting the disease from him. In no other case was there any spread of the disease; and the method of dealing with cases as they appear, the details of disinfection, the general vaccinal protection of the community, especially of the 70,000 school children and the large number of poor people, are so thorough that Chicago, notwithstanding its immense railroad travel and large number of transients, is now one of the safest cities in the Union in this respect.

At the close of the last quarter, smallpox existed in Centralia, Marion county; Charleston, Coles county, and Coulterville, Randolph county. Owing to municipal neglect and a mistaken idea of economy, the disease obtained a foothold in Centralia which subsequently required great effort to overcome, besides creating alarm and apprehension in neighboring communities. The disease was conveyed from this place to Irvington township, in Washington county; to Belle Rive, in Jefferson county; and to Springfield. The first case in Centralia, it is stated, was treated by Dr. Alexander Jones, whose certificate the Board

revoked at the January meeting for unprofessional and dishonorable conduct. It is alleged that Jones treated the case without any of the necessary precautions, not reporting it to the authorities nor in any manner guarding against spread of the contagion. The patient was treated during the entire illness in a room separated only by a curtain from a shoe shop on one of the most frequented streets of the town, and the shop was daily visited by numbers of persons. It is believed that all the cases in Centralia—32 in number, with 6 deaths—as well as those in Washington, Jefferson and Sangamon counties, are primarily due to the criminal conduct of this man. The Board has exhausted its authority in dealing with him by revoking his certificate, since he claims the exemption of the ten years' prior practice clause of the Medical Practice Act. In charging him, however, with being primarily responsible, it is not meant to exonerate the municipal authorities from all blame, for as early as the 8th of March they were duly notified of a case resulting from this first concealed case.

From the tramp who carried the disease into Charleston, Coles county, as reported at the April meeting, there resulted 5 other cases, making a total of 6 cases and 3 deaths. The first of this last group of cases was a man who visited the tramp, denying that the latter had smallpox. In the usual time he came down with the disease, and died on the thirteenth day.

At Coulterville, Randolph county, also mentioned in my last report, there were five cases with one death in the first outbreak, which was caused by a negro roustabout who had contracted the disease on the river. Notwithstanding a rigorous quarantine of isolation and other precautionary measures, some obscure cases of varioloid followed this first outbreak, and through failure to correctly diagnose the first cases of this second group, which were not characteristic, the disease still continues. The condition of affairs at this place, and a conflict of opinion as to some of the cases now under treatment led me to visit this locality personally on the 28th of June, when I found two well-marked cases, one of smallpox and one of varioloid. The severer of these two—and which will probably prove fatal—was in Perry county, just over the line, but instructions were given to the Coulterville authorities to extend their quarantine jurisdiction so as to em-

brace this case, and to vaccinate or revaccinate all persons within the compromised area, who had not been successfully protected within the last two and a half years. The spirit manifested by the village authorities, the physicians and the citizens whom I met warrants the belief that this outbreak will now be soon suppressed. I communicated also with one of the county commissioners, and the county clerk of Perry county, and the county commissioners of Randolph county, and feel assured of their co-operation and assistance.

The outbreak at Yorkville, Kendall county, previously alluded to as having been just reported at the close of the last quarter, was due to a young man recently arrived from New Orleans, who had an unrecognized case of varioloid. A large number of persons were exposed before the facts were known, and a total of nineteen cases, with four deaths, resulted. So much excitement was caused by the first group of these, some fourteen in number, eleven of which appeared in rapid succession between March 27th and April 2d, and in several localities, that I found it necessary to visit the town personally. The published instructions of the Board were thoroughly carried out, a supply of vaccine virus was obtained, and all unprotected persons were at once vaccinated. Notwithstanding the number of the centres of infection, only five more cases resulted, the last being after an interval of fully a month. The speedy suppression of the outbreak, which promised to be very serious at the time of my visit, was due to the prompt and efficient co-operative action of the authorities of the four separate jurisdictions in which the cases appeared. The detailed reports of these cases have been received, and from them the usual state of facts concerning vaccination is found, that is, that out of the four fatal cases three had never been vaccinated at all, and the remaining one had had smallpox when young, and had been vaccinated "seven or eight times since unsuccessfully, it would never work," owing, probably, to the previous attack of smallpox, the protection from which seems to have been exhausted prior to this last exposure. Of the fifteen who recovered, two had never been vaccinated at all; one not until after the febrile stage of the disease had begun, and four others not until after exposure. All these recovered, as did also the remaining eight, who had been success-

fully vaccinated at various periods prior to exposure. None of those attacked have ever been revaccinated.

There have been seven cases of smallpox with two deaths among colored steam-boat hands at East St. Louis, all contracted on the river. These cases were removed as soon as discovered from time to time, to the St. Louis smallpox hospital, and about the last of May I received a communication from the Health Commissioner of St. Louis, stating that the East St. Louis patients were the only ones then in the hospital, and that the institution was kept open solely for the benefit of the latter place. While this is technically true, the relations of the two places are such that what is done for the one in such a matter as this is really done for both. However, I again visited East St. Louis and discussed the situation with the authorities, and am glad to state that a Board of Health has since been organized, and the burial-permit ordinance prepared by the Board has been adopted.

Isolated cases of the disease have also occurred during the quarter, at Mound City, Pulaski county, one case, probably contracted on the river, no spread; at Red Bud, Randolph county, one case, contracted in Cairo, no spread; in Irvington township, Washington county, two cases, contracted in Centralia, and one from these in the person of the nurse, who had had the smallpox when young; at Belle Rive, Jefferson county, one case, contracted in Centralia, no spread; in the country, six miles south of Nashville, Washington county, one case, contracted in Coulterville, and from this, four more cases in the same family; in Ashmore township, Coles county, one case, contracted in nursing an unreported case on the county poor-farm, patient had had smallpox when young; and in Springfield, Sangamon county, one case, contracted in Centralia, and not recognized until after death, so that there will probably be other cases from this, although the usual precautions were at once taken, when the character of the illness was discovered.

At the close of June another group of three cases is reported in East Fork township, Clinton county, five miles southwest of Patoka, and sixteen miles north of Centralia, where the disease was contracted.

Although the contagion has been repeatedly introduced into Illinois from without during the past winter and spring, we have

been fortunate in escaping it by immigrant introduction thus far. Neighboring states have been less fortunate, Iowa, for example having now a serious outbreak of upward of thirteen cases in one county, all among immigrants landed at Baltimore from the steamer *Salier*, of the North-German Lloyd line. The want of appropriations whereby the National Board of Health might continue its Immigrant Inspection service, is seriously regretted.

With regard to further action concerning smallpox, in view of the probability of its epidemic spread from abroad, as shown by its increasing prevalence in London and elsewhere, and its frequent introduction into the State from neighboring States, I would suggest that it is desirable to call the attention of sanitary authorities and others to these facts, and to the experience of the last few months, which shows that when the disease is introduced into a community where vaccination and revaccination were not thoroughly carried out during the recent epidemic, there is still danger of serious trouble. It is also important that County Superintendents, school-boards and others interested should have their attention again directed to the fact that the School Vaccination order of the Board is permanent and continuous, and that its thorough enforcement is expected, so as to prevent any accumulation of unprotected or imperfectly protected scholars from term to term. To this end I think it again necessary to print and distribute copies of the order, with necessary instructions, together with supplies of certificates and blanks for returns, to be made through the county superintendents by the first of January next.

Cases of glanders and other infectious diseases among animals continue to be reported to the Board. On the 28th of June Dr. C. N. Cooper, of Batavia, Kane county, reports having a patient under treatment, suffering with glanders, and wishes instructions and advice as to his actions.

The amended pleuro-pneumonia and glanders act has by no means relieved the Board of responsibility in these cases. The public naturally apply to the health authorities in matters pertaining to health, and thus far the State Veterinarian is only reached in a large number of cases through this office. Whether legislation is necessary on this subject, and what form it

should take are matters which seem to require the consideration of the members.

Cholera.—An epidemic spread of Asiatic cholera now seems imminent. What is known as the Damietta outbreak failed to secure a foothold in Europe last year, and with the exception of a few isolated cases in Russia and one fatal case at the Smyrna lazaretto, all in July of 1883, it is believed that the disease from this outbreak was confined to the delta of the Nile. France, it is true, was threatened by the arrival at Havre of the steamer *St. Bernard* in June last with one case on board, but preventive measures were successfully instituted on that occasion, and the evil then averted. About the first of May, 1883, the British troop-ship *Crocodile* was reported in quarantine at Portsmouth, England, having then had eight cases of cholera on board, but on this occasion also, the disease seems to have been confined to the infected vessel.

The French seem to have been less successful in their recent precautionary attempts, if it be true, as is now alleged, that the Toulon outbreak was due to a fatal case on board the transport *Montebella*, from China, the infected clothing of the case not being destroyed. Later advices state that the disease was brought from Egypt in the troop-ship *Sarthe*. It has already spread to Marseilles, the villages above Toulon, and cases are reported in Italy and elsewhere.

Whether the disease will cross the Atlantic from the East will depend, of course, largely upon the efficiency of the measures employed to confine the contagion to its present localities. Very general activity is manifested by all the European governments and sanitary authorities, and it is to be hoped that they may prove successful, although the dissenting opinions of the English authorities as to quarantine may lead to friction between them and the Continental authorities. Meanwhile, we are threatened not only from Europe, but from the opposite side of the globe, the cholera seeming to be spreading in China and to have broken out in Japan.

In view of this condition of affairs I have thought it my duty, on behalf of the Board, to urge that the organization of the National Board of Health should be maintained, and have advised to that effect, hoping that it may be possible to still secure the necessary appropriation for this

purpose in the Sundry Civil Service bill. Should cholera continue to spread on the Continent, it is more than likely to find an entrance into this country, despite the efforts which may be made by local and State authorities to exclude it by quarantine regulations. Want of uniformity, failure to co-operate, commercial considerations and local conditions all combine to impair the efficiency of any system of quarantine, and to the extent that these obtain, in the absence of a uniform system, is the danger of failure increased. The remedy, of course, is in the National control and administration of quarantine, and the present emergency furnishes another argument for the continuance of the National Board of Health, with adequate appropriations and increased power and authority.

As to what should be done by us as a Board in the present aspect of affairs, I would say that my experience and observation lead to the conclusion that it is not judicious to place entire reliance on quarantine measures, no matter how administered, should the disease become epidemic in countries or ports with which this country has close commercial relations. Asiatic cholera, although it may invade places in good sanitary condition, finds its most congenial habitat where filth in any form abounds. The best attainable sanitary condition—clean streets and premises, the prompt and proper disposal of organic refuse, night-soil and all forms of sewage; well-ventilated habitations, with clean, dry basements; a pure and sufficient water supply, and good individual hygiene, including personal cleanliness, proper diet, and regular habits of life—these are the best safeguards against Asiatic cholera, as they are against most diseases. If it should unfortunately appear in a locality whose sanitary condition is good, as thus outlined, there is every reason to anticipate its arrest by well understood measures—thorough isolation of cases, disinfection of discharges, etc. Cholera is pre-eminently a disease to be fought by sanitation.

Professor Koch's recent researches, by which he has demonstrated the existence of the cholera bacillus; promise something in the way of special prophylaxis, and so far as this is in a direction with which the great mass of empirical knowledge points, it may be worth while calling attention to this feature. I allude to the practical point which Koch has demonstrated, of the de-

velopment of the cholera-bacilli by alkaline moisture, and its arrest or destruction by acids. If further experiments confirm this proposition the preventive treatment of Asiatic cholera may come to be a matter of as much certainty as the prevention of smallpox.

As to our own immediate action in the premises, I have to suggest that the attention of the sanitary authorities throughout the State be officially called by the Board to the necessity of promptly securing the best attainable sanitary condition of their respective localities.

A thorough sanitary organization of the State, with a view of improving its general sanitary condition, is one of the matters to which the Board may now profitably give its attention. The Board is now, at the end of its first term, in a position to give this subject more consideration than heretofore, and it is entirely possible that such an emergency will present itself as will make this of the first importance.

Yellow Fever.—With the exception of recent reports of the reappearance of the disease at Guaymas, Mexico, where it prevailed extensively last year, and of some increase in the number of cases in Havana, there is an encouraging absence of yellow fever indications in the South up to date. A conference of representatives of the Boards of Health of the Gulf States was held, at the request of the newly-organized Louisiana State Board of Health, at New Orleans, on the 2d, 3d, and 4th of June, the object of the conference being to bring said boards into harmony, and, if possible, to devise and arrange improvements in the systems of quarantine in vogue along the Gulf coast. Representatives of the general Government, of the Auxilliary Sanitary Association, and of the various commercial organizations of New Orleans, were also present by invitation. The proceedings were characterized by moderation and by a gratifying display of mutual confidence and desire for thorough co-operation. Many practical suggestions were made, and on the whole, the conference would seem to promise more of benefit than anything of the kind which has occurred of late years in that region, provided the means necessary to put into effect the wishes and intentions of those concerned be forthcoming.

Meanwhile, as already stated at our last meeting, the Sanitary Council is prepared to adopt, if it should become necessary, the

same line of action in regard to the prevention of the introduction of yellow fever or other epidemic diseases into the Mississippi Valley as that pursued in 1883.

Sanitary Conference.—In accordance with the authority given at the last meeting, I attended the conference of representatives of State Boards of Health, held during the recent session of the American Medical Association, in Washington. An organization was effected, officers elected, and plans adopted for securing co-operative action by the various Boards in the event of any emergency arising which threatens the sanitary interests of any of the states in common. Meetings will be held during the sessions of the American Public Health Association for the interchange of views and the furthering of the plans and objects of the Association.

The Fifth Annual Report.—Continued delays in the public printing office have still further postponed the publication of the Fifth Annual Report of the Board, but a full force of compositors is now at work upon it, and assurance is given of its speedy completion.

The matter for the Sixth Annual report is in an advanced state of preparation, and together with the Revised Official Register of Physicians and Midwives, which is also nearly ready, will be put into the printer's hands as soon as the Fifth Annual Report is out of the way.

All of which is respectfully submitted,

JOHN H. RAUCH, *Secretary.*

At the conclusion of the reading of the Secretary's report, which was accepted, and ordered placed on file, the following resolutions were adopted, looking to putting into effect the various suggestions embodied in the report.

Resolved: That the importance of the study of practical anatomy, as a foundation for surgical knowledge and skill, demands, that the supply of material for this study be more definitely regulated, and its necessity recognized by law, and that the Illinois State Board of Health respectfully urges the attention of law makers to these considerations.

Resolved: That the increasing prevalence of small-pox in London and elsewhere, indicating a probable renewal of this epidemic tendency, and its frequent introduction into Illinois from neighbouring states, within the past few months; make it desirable that vaccinal protection be secured as fully as

possible in every portion of the State; and to this end, the Secretary is hereby authorized to call the attention of sanitary authorities and others to the subject; and to take the necessary steps to push the further enforcement of the School Vaccination Order of the Board, so that all new scholars, and those who have not heretofore fully complied with its provisions may be properly protected against small-pox before the advent of cold weather.

Resolved: That while epidemic cholera may be excluded from this country by thoroughly-enforced quarantine regulations, yet the best attainable sanitary condition of every locality in the state should be secured, so that in the event of asiatic-cholera effecting an entrance, notwithstanding quarantine, the disease may be met and fought under the most favorable circumstances: The Secretary is, therefore, hereby authorized so take such action, as in his judgment, will most promptly obtain a thorough sanitary organization of the State, and the adoption and enforcement of the measures necessary to improve its general sanitary condition.

On motion of Dr. Haskell the Secretary was given discretionary authority to act for the Board in any case of emergency which may arise in the interims between the regular meetings.

During the executive sessions the cases of a number of colleges, with reference to the requirements of the Board and their standing under the Medical Practice Act; the important features of the office correspondence during the quarter; and the cases of a number of practitioners were considered, and the necessary action taken in a large number of these.

The following certificates were also ordered to be revoked:

Certificate No. 913, issued to Peleg W. Blakeley.

Certificate No. 1103, issued to Fritz Tripple.

Certificate No. 3190, issued to S. Meyer.

Certificate No. 4027, issued to William Becker.

After the transaction of sundry routine business, auditing of accounts, etc; which occupied the hours of the morning session, the Board at 11.30 A.M. adjourned.

FEMALE VACCINATORS, says the "Lancet," have been introduced in Madras, so as to evade the prejudice against native women being treated by medical men.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN.

Mr. J. S. TURNER, M.R.C.S., L.D.S.,
President, in the Chair.

MR. STORER BENNETT showed, for Mr. Balkwill, of Plymouth, the skull of an English black rat, which illustrated in a very remarkable manner the serious results which might happen to rodent animals from the continuous growth of their characteristic teeth when from any cause their normal antagonism was lost. In this case the two lower incisors had been deflected to the left, and the two upper to the right, so that they did not meet in the usual way. The right upper tooth had described one complete circle and three-fourths of another, but being well inclined outwards it had not met with any obstacle. The right lower tooth had penetrated the upper jaw and the parts above, and its tip projected a quarter of an inch above the highest point of the skull. The left upper tooth, after describing a complete circle, had encountered the front of the upper jaw, which it had penetrated to the depth of one-third of an inch. The left lower tooth had been broken off. The lower jaw was thus quite fixed, and the animal could only have obtained nourishment by means of suction.

Mr. E. G. BETTS stated that he had found ethylate of sodium very useful for obtunding the pain of sensitive dentine. Before applying it the dentine should be carefully dried, and the application could be repeated at intervals as the sensibility returned. As it was used by the medical profession for destroying cutaneous nævi, he thought it might be useful in destroying the tooth pulp; but in this he had been disappointed.

Mr. J. H. MUMMERY read notes of a case of extensive alveolar abscess of obscure origin. The patient, a strong, healthy-looking young man from Natal, had suffered for more than a year from constant purulent discharge from an opening below the angle of the jaw on the right side, which was a source of great annoyance to him. He had consulted several surgeons, one of whom sent him to Mr. Mummery with a request that he would remove the necrosed roots of the right lower first molar. This was done, but did not affect the abscess. The second molar had a small cement filling, but was to all appear-

ances healthy, as was also the third molar. Six months later the patient returned in the same condition, and now consented to a further examination of the second molar, which was, however, still firm, and free from tenderness or percussion. On drilling into the pulp cavity, pus escaped, the tooth was at once extracted, and the sinus healed within a week, and a complete cure effected. The patient stated that the tooth had cost him between £400 and £500 in traveling expenses and surgical fees.

Mr. BETTS then read a paper entitled "Observations on the Teeth of Certain Rodents," in which he disproved the statement of Professor Hilgendorff, since copied into other works, that the incisors of the Leporidae had a complete investment of enamel, and showed that the thin transparent layer at the back of the incisors of hares and rabbits were really continued from the cementum and could clearly be demonstrated not to be enamel. Although apparently a small matter, it was of more importance than appeared at first sight, since this supposed fact had been held to show that the Leporidae were in this respect a missing link between the rodents and other mamalia, whilst in reality the exact relations of this large class to the rest of the animal kingdom must still be considered an open problem.

The result of Mr. Betts' observations was confirmed by Messrs. A. Underwood and Chas. Tomes, who also commented on the obscure zoological relations of the Rodent class, and the latter suggested that some of the missing links might yet be supplied by a careful study of the marsupials.—*Medical Press.*

THE judgment which was rendered over a year ago, in New York, by Justice Van Vorst at Supreme Court, special term, against the "United States (Eclectic) Medical College," depriving the institution of its charter, was affirmed in May, 1883. From that judgment the defendants appealed to the Court of Appeals, and the latter has just handed down a decision affirming the judgment. As the attorneys for the "Buffalo College of Physicians and Surgeons" stipulated to let the case against that school abide the event of this suit, the decision disposes of both of these bogus colleges.

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Cincinnati, July 12, 1884.

Translations.

PATHOLOGY AND TREATMENT OF SOME OF THE DISEASES OF THE SKIN.—From the *Gaz. des Hôpitaux*. *Acne*.—Brame in speaking of acne, makes the following interesting report. A patient employed as a teamster developed a varioloid acne on both hands due to his occupation. It soon developed to an acne indurata of the arms, legs and hips.

The disease was communicated to two near relatives with whom he occupied the same bed. An inoculation with the contents of the pustules caused a development of acne indurations. The pus contained a large number of round microscopic bodies. After the patient had been entirely cured a third relative complained of the same trouble. From the observations of Brame he comes to the conclusion that acne indurata is contagious since the disease could be carried from one patient to another by inoculation. In cases where the pus was examined microscopically it was found to contain a large number of spores the most of them being very crooked so that Brame gave to them the name of acne incurvata.

Acne Rosacea.—The local treatment of some of these cases has been successful by the use of ergotin. One case, in the instance of a young lady, who complained with the above malady for over two years had all the ordinary remedies applied without any relief. The remedy in this case was applied by means of charpie on which

it was spread. In the course of three weeks the patient was beginning to feel better and in six weeks the cure was complete, which was permanent yet at the expiration of two years.

The other case, a man, fifty years old, lived in a very dissipated manner, developed an acne of ten year's standing. The nose was of a scarlet red color and covered with a number of pustules and hard indurations. The treatment in this case consisted in applying a poultice to the nose and every third day ergotin was injected subcutaneously. After eight to ten days the skin of the nose was soft, white and shrunken, and in the course of four months (after forty injections) the organ was normal in appearance and size again.

In *Schmidt's Jahrbücher*, xciii., Hebra reports a procedure which consists in removing all foreign excrescences by means of the knife and then allowing the parts to heal. Jewett, of New York, communicated a case to the *Medical Record* where the patient's nose developed to the size of an orange during forty years. The plan of treatment was to remove, by means of the knife, all the hypertrophied tissue down to the cartilage. Hemorrhage was checked by means of liquor ferri sesqui chl. and the wound dressed with a solution of permanganate of potash. The result was perfect giving to the organ its original shape.

Lichen Ruber. — A. Pospelow, in the *St. Petersburg Med. Wochenschrift*, describes a case of lichen ruber planus localized on the mucous membrane of the mouth. Quite a patch of the disease was found on the surface of the tongue; another group on the hard palate near the alveolar margin of the incisor teeth. The oldest and largest of these knots was atrophied in the center, which changed its appearances somewhat.

The cause of this disease in the above case Pospelow attributed to the exposure to extreme cold. He claims that in five out of six cases, treated by himself, the cause was plainly due to a rapid decline of the body temperature of the patient. If this can be verified by other observers the fact is of importance on account of its etiological bearing. According to the observations of Vidal and Leloir lichen ruber simplex causes a change in all the layers of the epidermis. The horny layer is somewhat thickened and in the lower portion of

it the cells resemble those of psoriasis, the cells are not complete. The stratum granulosum is rich in eleidin and consists of two or three layers of cells, the stratum malpighii like in psoriasis is hypertrophied and occasionally sends small branches like into the corium. In the corium there is a rich cell infiltration, especially in the upper layers around the vessels, hair bulbs and sweat glands. Occasionally there is a change in the hair follicle itself, consisting of hyperplasia of the covering of the hair bulb, causing a dilatation of the follicle.

Unna recommends the carbol sublimate inunction cure, with which he has relieved a number of cases in the course of eight days to three weeks. The ointment is prepared in the following manner:

R. Unguentum zinci, 500.
Acid carbol, 20.
Hydrarg. chlor. corr., 05—1.8.

M. ft. Ointment.

This salve is applied to the whole body of the patient every morning and evening, and during the entire treatment he is to remain in bed between woolen blankets. In nearly all cases this plan of treatment acted very well. Carbolic acid could be detected in the urine on the second day, and on the third and fourth day patients generally complained of a feeling of weakness but this soon passed away. The itching disappeared rapidly, especially was this marked where the disease was acute. To prevent salivation the mouth was frequently rinsed with a solution of chlorate of potash. By some authors the arsenic treatment is combined with the inunction cure and it is said to promote its action very materially in this class of cases.

The Therapy of the Severe Forms of Lupus.
From *Weiner Med. Wochen.*

The large number of remedies which have been recommended for the treatment of this disease during the past few years have been praised by some and condemned by others. Even those remedies that found many followers and adherents during their introduction could not prevent the desire for something better, and the practical explanation of all this is that none of the remedies gave satisfaction. Up to the present time such remedies as are active, and, consequently painful, have yielded far better results than those which are milder. The treatment by means of pastes, such as Cosme's arsen, or Sandolph's gold chloride mixture, is quite obsolete. The surgical

treatment in this form of trouble, as recommended by Volkman, is quite popular, and has given good results, and it mattered little which method was employed, the linear scarification, multiple puncture, or the removal of the lupoid tissue by means of the sharp spoon. These methods have been used to the exclusion of all others, but the result is mainly what governs the action of surgeons, and at the same time, operative interference is less painful than the old methods of treatment. It is not always necessary to attack every lupus so actively as the English and French surgeons have done recently. Aubert, Fox, Malcolm, Morris and others recommend deep scarifications and active reductions of the involved tissue in as few sittings as possible. Besmier uses the thermo- and galvano-cautery in different forms, making use of knives and needles. On account of the pain, many surgeons recommend local, others total anæsthesia, with subcutaneous injections of morphia or morphia and atropine mixed. The results of Besmier's procedure are satisfactory, and it has been adopted almost generally.

Schwimmer has operated on a few hundred cases of lupus, giving all the operations an unprejudiced trial, but he has not found a single procedure that can be used in every case; not unfrequently he was forced to record the best results with mild remedies in severe cases, while operative interference would sometimes cause the disease to spread rapidly to neighboring tissue. In particular he reports two cases, one of which has been under his observation for fifteen years, and the other for a series of twelve years. The first case, female, aged forty, had been afflicted with lupus for twenty-five years, had been treated by Hebra. The disease was located on the face, and I began the treatment with arsenic paste and iodine glycerine, but in spite of this treatment, or the use of the mitigated stick, the disease gradually spread. I now resorted to scarification, scraped out the involved tissue with the sharp spoon, and then applied a solution of chloride of zinc; the recently involved structure was treated with the thermo-cautery, but the disease progressed until it had involved the entire face, then it stopped on its own accord.

The second case, Countess B., who had been treated by myself and then in succession by all the leading dermatologists of

Vienna, for a lupus of the face, head and neck. The patient manifested great courage, and was ready to endure any operation that had ever promised results, but the use of caustics, pastes, scarifications, the use of the spoon, and the thermo-cautery, had not even the effect to stay the disease, it spread over new tissues and reappeared in tissues from which it had been removed. Such results I am confident every dermatologist can record, and it proves that we can not always give a prognosis, or even expect good results. The best chance for good results is in cases where the disease is limited to only a little spot, and nearly any plan of treatment is sufficient to destroy the disease permanently, or at least for many years.

A case that I have under treatment at present, is a girl sixteen years old, who has had a lupus removed three times during ten years. Another case, quite analogous, where I removed the disease four times during twelve years, it generally recurred in the old scar. In both of the above cases the disease was quite circumscribed, notwithstanding that the results were not satisfactory, but what relief could be promised where the disease involved one-half or the whole face? Many of these cases are objects of instruction rather than subjects for treatment. Neither one method of operative interference nor one remedy therapeutically applied is sufficient in all cases, while only too often none of them seem to be of any service. c.w.t.

THE NATURE OF THE JEQUIRITY POISON. Sattler has set up the theory, and has attempted to prove that the reaction produced on the conjunctiva, eyelids, cornea, etc., when an infusion of jequirity is instilled into the eye is due to a specific bacillus, making the jequirity-ophthalmia a disease dependent on bacteria. Hippel first contradicted this theory; the observations of Neisser, Salomonson, Dircking and Klein corresponded with the criticism of Hippel. H. claims the following facts overthrow S.'s theory:

1. The jequirity-ophthalmia is not hetero-inoculable.

2. The jequirity bacilli are absent from the secretion as well as from the tissues affected.

3. The most typical cases are produced with an infusion entirely free from bacilli, and the more this organism multiplies the less is the reaction from the infusion.

4. The isolated jequirity bacillus obtained through "rein cultures" does not bring about any pathological reaction at all when placed on the conjunctiva. (Neissner, Salomonson and Klein.) If the theory of Sattler has suffered, and if the jequirity bacillus has been rejected from the list of micro-organisms carrying a specific pathogenetic poison, it has had the effect to cause an investigation into the nature of the poison, and all taken together, there need be no doubt but that pathology has been benefitted by the results. The jequirity poison is not a real infectious material, since there no chemical substances known that possess the property of propagating a disease which they are capable of producing. C.W.T.

ANTISEPTIC TREATMENT OF INFECTIOUS DISEASES.—(*Prager Med. Woch.*, by Warjunge.) The author has made an attempt to show that elevation of temperature in infectious diseases is not the main symptom for the physician to combat, nor is it the cause of the disease. It is only a guide to show the intensity of the infection, and physicians make a mistake when they think that reduction of temperature is all that is required to properly treat the disease. By cold baths the temperature is reduced only by repeating them frequently, thereby consuming the warmth faster than it is produced. The question here arises, why not administer agents that reduce the body heat by diminishing the production? We are warranted to believe that the presence of an organism is the cause of the disease, nor can anyone doubt but the greater the degree of infection the severer the symptoms will be. If we accept these propositions we had better at once make use of the antiseptic treatment, instead of the old symptomatic antipyretic treatment. True, the antipyretics have yielded good results, but many of the antipyretics possess antiseptic properties even if they were not administered for that purpose. It is not necessary to administer remedies in such a concentration that they will kill the bacteria, since if they are strong enough to paralyze their function temporarily, or until the organism has time to eliminate them, much is gained. Certain remedies have special properties in given diseases, as quinine in intermittent fever, and salicylic acid in acute articular rheumatism. W. has attempted to prove in a former essay that progressive pernicious anemia, leucemia and pseudoleucemia in all probabili-

ties are infectious diseases, and that we possess in arsenic as much a specific for their relief as we do in mercury and iodide of potash for the cure of syphilis.

In forty cases of whooping cough the author employed alum daily in 1.3 gramme doses, with almost a specific effect if the remedy was commenced in time. The attacks were not only less in intensity but the course of the disease was much abridged. In 1882 W. treated fifty-four cases of typhus fever with carbolic acid. While the results were not such as to convince us that carbolic acid is the best remedy in this disease, yet they were such as to stimulate the observer to further trials. The dose was generally .5 gm. The reduction of temperature was constant, but would only last for a few hours, and then elevate again. The majority of the patients felt quite well under this plan of treatment, the tongue remained moist, the diarrhea disappeared, and appetite became normal again. Albuminuria was present in a smaller percentage of cases and where it was present it sometimes disappeared when carboloria was set up. The whole course of the disease seemed to be cut short and all the symptoms mitigated. True, even under this treatment W. had some bad results; even in cases where convalescence had commenced already, the patients dying of parotitis and perforative peritonitis. Notwithstanding that carbolic acid reduces temperature in typhus fever, as we have seen, the author does not claim its action wholly due to reduction of temperature, but certainly to the antiseptic influences of the drug. C.W.T.

BOROCITRAT OF MAGNESIA AS A SOLVENT OF URINARY CALCULI.—Dr. N. Perez (*Boletín de Ciencias Médicas*, Guadalajara Estado de Talisco, Mexico) refers to the case of a boy, four years old, having a large calculus in his bladder. Before performing an operation he tried the application of the borocitrat of magnesia, of which he gave fifteen grains dissolved in one ounce of syrup, one to three tablespoonfuls every day. After three days of this treatment a good deal of white sediment appeared among the mucus in the urine, which continued about one month, the other phenomena disappearing, so as to cause belief in the recovery of the boy.

In consequence of this result the Doctor proposed the same treatment in another boy having a large calculus in his bladder,

for which an operation was contemplated. One month of this treatment was given, the urine during this time having a yellowish sediment. At one time he was called on account of severe symptoms of incomplete obstruction of the urethra near the glans. The Doctor perceived something hard, which was really a foreign body in the urethra. He removed it with the forceps and it was found to be a small calculus. A slight urethritis followed after every symptom disappeared.

In both cases there is no doubt but that the calculi were composed of different salts, as the sediments were of different color, which shows that the medicine acted on both in the same way.

The formula of the remedy is:

Carbonate of magnesia, 15 gr.

Acid citric,

Borate of soda, aa, 3 ss.

Aq. fervent q. s. ut solvatur.

This solution is spread on a glass for evaporation, obtaining in this way a salt in laminas, which is the borocitrate of magnesia and soda.

This salt was claimed to be a good solvent of the urinary calculi by Becker, and Madsen made comparative experiments with the benzoate of lithium, demonstrating the superiority of the borocitrate of magnesia.

A. R.

THE INFLUENCE OF THE MAGNET ON THE ANIMAL ORGANIZATION. — Prof. Charles Maggiorani, in the sitting of the *Accademia di Lincei* in Rome, Italy, presented his observations on the phenomena produced by the magnet on the development of the embryo.

The peculiar results in regard to embryogenesis under magnetic power make us believe that it will be of interest to our readers.

The author started from the opinion that if heat has a great influence on the process of embryogenesis on account of the molecular oscillation which it impresses on the protoplasmatic mass, another power, as the magnetic, acting through vibration, must have great influence on the development of the new animal being. The first researches of Prof. Maggiorani were made on the eggs of chickens, artificially incubated, observing the little ones after escaping from the egg and the adult chickens resulting. He remarked that the eggs under the influence of the magnet presented a delay in

the development of the embryo in comparison with the eggs not magnetized. But the vascularization of the vitellus was much more apparent in the magnetized embryos. The little chickens resulting from the magnetized eggs were much more liable to die than the others, and many of them presented organic anomalies, as very thin legs, twisted toes, etc., the precocious breaking of the egg, which would be in contradiction to the delay of the development, but when well considered it is a sign of inferiority. The female, which is inferior in the degree of the animal perfectibility, really develops sooner than the male. Precocity is organic inferiority. Many times disturbances of locomotion appeared in chickens proceeding from magnetized eggs. These chickens are frequently lame, cannot stand on their legs, and one could not change its place without rolling on its body. Adults maintain all the time these marked disturbances. Some of them having been anatomically examined never showed perceptible nervous alterations in the centres.

The most interesting phenomenon was remarked in hens obtained from magnetized eggs, which produced eggs much smaller than the ordinary size, and some without the yolk. The eggs of these hens, when incubated, never gave any result.

Such a multiplicity of phenomena can be produced not only from the difference of the power of the magnet but also from the movements of the eggs, changing their position in reference to the magnetic currents. The facts observed in the embryos, in the chickens and in the eggs, are connected together as effects from one cause. If it would furnish proof of the influence of the magnet in the development of other animals, it would be a fact that the magnetic vibrations cause an interference with those of the embryo, which, during the development, seek new positions of organic equilibrium. Therefore vibrations of the embryo in its development ought to be analogous to the magnetic vibrations. A. R.

ALBUMINURIA IN STRANGULATED HERNIA. — At a session of the Royal Association of Physicians in Vienna, Dr. Englisch reported that in a total of seventy-four cases of strangulated hernia, he had found albumen in the urine thirty-nine times, while it was absent in the remaining thirty-five cases.

The albumen appeared at a variable period after the occurrence of strangulation, and subsided in from one to four days after operation—taxis or section. Where albuminuria had existed previous to the occurrence of strangulation, its quantity was notably increased. From the presence or absence of albumen the reporter had found it possible to diagnose between the strangulation of a loop of intestine and the strangulation of an intestinal appendix or of the omentum. The amount of albumen he found proportional to the degree of organic change that had occurred in the strangulated bowel.

The appearance of albumen in the urine of a patient suffering from gangrene of the intestine lends an exceedingly unfavorable aspect to the case, because of the liability to the development of anuria. In cases where attempts at reduction of the hernia by means of gentle taxis have failed, the appearance of albuminuria is always an indication for operative procedure (herniotomy.)

The appearance of albumen is associated with a diminution of the quantity of urine, and, *vice versa*, its disappearance is accompanied by an increase of quantity. The coloring matters of the urine are increased during the albuminuria. Epithelial elements and casts are seldom found in the urine after the appearance of albumen, and when found it is only in two or three days after its inception. From these facts *North* infers that the albuminuria is to be looked upon as an evidence of collapse, and the result of a diminished blood-pressure. — *Wein. Med. Presse.* — *D. Medicinal Zeit.*, No. 47, 1884. J. M. F.

Abstracts.

OPHTHALMOLOGY, ETC.

PREPARED BY DR. DAVID DEBECK.

THE JEQUIRITY QUESTION—(Continued.)
Archives of Ophthalmology, March, 1884.

KNAPP, New York. Has used jequirity in numerous instances; ten illustrative cases are reported in detail. Of these, more or less improvement to conjunctiva or cornea, or both, occurred in seven; in two no improvement was obtained; in one, ulcers of the cornea, followed by perforation, healing with small central, adherent leucomas, occurred. A three or five per cent. infusion used, applied three or four times as a rule.

Two later cases are reported, in which a purulent conjunctivitis ensued; and in one of which ulceration, and central perforation of both corneæ occurred.

He sums up as follows:

1. Jequirity cures trachoma more quickly, but less safely, than other remedies.
2. Its action is highly beneficial in most cases, but neither uniform nor always controllable.
3. The cure of trachoma by jequirity, as well as by other remedies, or by nature, is accompanied by more or less atrophy of the conjunctiva, and the formation of cicatricial tissue.
4. The greatest danger from the use of jequirity consists in the occasional development of a severe diphtheritic conjunctivitis followed by pyorrhœa and more or less extensive destruction of the cornea.
5. The use of jequirity ought to be restricted to cases of old, intractable pannas, until cautious experimentation has determined the conditions under which we can obtain the benefit of this powerful remedy divested from its danger.

GRUENING, New York. Carefully tabulates twenty cases. These were cases of acute trachoma with clear cornea; chronic trachoma with clear cornea or with pannus; xerosis of the conjunctiva with pannus. He sums up as follows:

1. The use of a five per cent. infusion of jequirity is attended with danger to the cornea.
2. The action of the two per cent., two and a half per cent., and five per cent. infusions of jequirity upon granulations is inconstant. The granulations are either not affected at all, or are changed into dense cicatricial tissue. Their disappearance without conjunctival alteration is rare.
3. Jequirity acts more favorably than any other known substance upon the pannus accompanying or following the granular condition of the lids.

KIPP, Newark. Only slight experience. "I must confess that my experience, limited as it is, causes me to look upon this remedy as a dangerous one, as we are unable to control its effects."

WILLIAMS, Boston. No experience. Believes that trachoma and pannus can be more safely, and as successfully treated by other means.

STRAWBRIDGE, Philadelphia. "I think that I can say as the result of the Wills Hospital experience that jequirity is

adapted only to old granular conjunctivitis, where corneal pannus is also well developed."

NORRIS, Philadelphia. Experience limited. Believes that in so active a remedy its use should be confined to the most inveterate cases of granular lids, where the cornea has long been completely permeated by blood-vessels.

BLINDNESS IN FACIAL ERYSIPELAS.—Knapp (*Archives of Ophthalmology*, March, 1884) reports a case and reviews the literature of the published cases. Knapp's case is of value, from having been seen early and carefully observed throughout its course.

In the earliest stage, ophthalmoscope showed media clear; disc invisible; veins dilated, tortuous, almost black in color, indicating venous stasis; arteries invisible; retinal hemorrhages.

Later examination, arteries visible; vessels interrupted by sharply defined white segments (thrombi).

Final result, atrophy optic nerve; vessels sharply outlined, white cords.

Knapp draws the conclusion from this case that the intra-ocular changes and the impairment of vision are the result of the compression of the central vessels of the retina in the orbit, due to the orbital cellulitis.

The statistical table of the published cases is interesting as regards prognosis. Of 35 cases:

Death in,	29 per cent.
Of the 25 cases recovering:	
Blind in both eyes,	16 per cent.
" " one eye,	60 " "
Incomplete vision,	12 " "
Complete "	12 " "

August Carl (*Monatsblatt f. Augenheilkunde*, April, 1884) reports a case very similar to the above. The case was not observed during the very earliest stages; the later stages and result are practically identical. The retinal veins passing upwards-inwards, only, escape the thrombotic changes.

His views as to the etiology, etc., of these changes are those given above; he advances the additional hypothesis, however, that the causative factor may not be simply the mechanical pressure due to orbital cellulitis; but may be the invasion of the micrococci, the pathogenic agent in erysipelas, along the loose peri-vascular

lymph spaces of the retinal vessels in the optic nerve.

REMOVAL OF EYE-BALL AND CONJUNCTIVA.—Green, St. Louis (*American Journal of Ophthalmology*, June, 1884). In certain cases of extensive loss of conjunctival or orbital tissue, this modification of the operation of enucleation is indicated. The eye-ball is removed; the tarsal conjunctiva and the cilia-bearing lid margins are dissected away; and the two lid flaps, composed of skin and orbicularis muscle, are united by sutures. A linear cicatrix and shallow concavity are left. He reports four cases.

Selections.

MEDICINE.

A CASE OF EPILEPTIC AUTOMATISM.—An interesting case of epileptic automatism is described recently by a writer in the *Lancet*.

A young man has for four years been subject to attacks of petit mal. He does not fall, but seems to "fix" his eyes, and sometimes walks forwards, or sideways, at others sits down, and generally ends by going to sleep. There are neither convulsions, nor frothing at the mouth, nor tongue biting. The only warning is that he suddenly begins to wonder whether he is going into an attack, and then he loses consciousness. He does not think he ever dropped anything out of his hand, but he has spilt tea out of a cup. In some of the attacks he will stop what he is doing and seem to "study" for a time, but in others he will go on doing what he was engaged in at the time.

A. On one occasion, while alone in the house, he had been playing the oboe, and was just turning over some music when he lost himself, and knew nothing more for an hour and a quarter (he happened to know the time); when consciousness returned he was lying on the sofa still alone in the house. He, however, must have, during the state of unconsciousness, put the oboe properly away in its case and taken out the reed, for it was uninjured in its place when he came to himself. Now, this taking a reed out of an oboe is an operation requiring very delicate manipulation.

B. Another day he was with several musical friends. I think he had been

accompanying some of them on the piano. He was standing at the table turning over some pieces of music when they saw him go into an attack. While it was obvious to them that he was in a fit, for they had seen him before, he took up a piece of music, went to the piano, and played it; he was quite unconscious afterwards of having done this.

C. In his father's mill there is a machine for winding warps, which is not under the special care of any one, for, when started, it works for some time by itself; but occasionally a warp breaks, and when this takes place any one who happens to see the broken end of the warp hanging down stops the machine, "piecens"—that is, joins,—the ends, and starts the machine again. Now, one day his father and others saw him go into an attack ("fix" his eyes and walk forward); and while he was in it he passed this machine, in which a broken warp was at that moment hanging down. He stopped the machine,—which is a peculiarly complex action, for it must not be stopped suddenly, but has to be let down or "slowed" by degrees—he tied the broken ends, and then started the machine again. All this he did while obviously quite unconscious, and then he passed into the usual drowsy ending of the attack.

The writer points out that these phenomena were not those of purposive epilepsy; that they did not constitute the fit, but occurred in spite of it. According to Hughlings Jackson, if the epileptic discharge be limited to parts essential to higher consciousness only, and lower areas are left untouched, these, being freed from control, will act automatically, sometimes with even hyperphysiological activity, in response to any stimuli which fall in their way. Possibly these stimuli may have been in the case A the remains of intentions already cerebrally formulated, or they may have been sense impressions received while in the unconscious condition in the case C. But the seemingly volitional character of these "automatic" acts is difficult of comprehension under any view.—*Boston Med. and Surg. Journal.*

ANTISEPTIC INHALATIONS IN PHTHISIS.—Dr. C. Nelson Gwynne publishes a paper on this subject in the *Medical Press*, May 7, 1884, in which he says that while he believes that the bacilli are reasonably secure from the action of antiseptics, yet as a valu-

able adjunct to the general treatment he is convinced of their very great importance. The almost unanimous opinion regarding their value by the patients themselves confirms him in his opinion. That they "ease the breathing," "assist up the phlegm," lessen the phlegm," are the expressions he daily hears regarding them; and the benefit derived is so great that many of his patients make use of the respirator-inhalers much more frequently than he had recommended, after many months of experience still are as firmly convinced as ever of the benefit they receive from their use. The principal ingredients he has used are carbolic acid, creosote, thymol, iodine, and turpentine; and all these his patients have had no difficulty in using, nor had any dislike to, with the exception of the iodine. The etherialized tincture is, he finds, well recommended; but he could never induce his patients to make use of it for any length of time, nor did they speak favorably of the benefit derived from it.

There are a great number of antiseptic respirators in use, but the one he generally adopts is Dr. Wm. Roberts'. It is of blackened metal perforated with large holes at the front, shaped to the lips, and half or three-quarters of an inch in depth, with a hinged lid which opens outwards, and allows the introduction of some cotton wool saturated with the material intended to be inhaled. There can be little doubt that impregnating the air of the room with antiseptics will finally take the place of respirator-inhalers, and already many plans have been devised for doing this. If towels saturated in carbolic acid are hung in a room, it has been found that after a few hours nearly all the carbolic acid will have disappeared from the towels, and will have been taken up by the air of the chamber. Of all the antiseptics, creosote perhaps holds the highest place for this purpose. There are well authenticated cases recorded of phthisical cases having quite recovered by engaging in the manufacture of this article.

BLACK TONGUE.—The following case of this affection, Dr. G. T. Broatch reports in the *British Medical Journal*, April 19, 1884.

The patient is a man aged sixty, a painter and glazier by trade, but, on account of ill-health, has not done any work for seven years. Shortly after he commenced his apprenticeship, he was attacked with lead-

colic, and the blue line characteristic of lead-poisoning appeared on his gums, and remained for about twelve months. He has never enjoyed robust health, and at present suffers from ulcers on his legs, which have existed for the last thirty years.

On examination of the tongue, the blackness is seen to be in the form of a circular patch, about an inch in diameter, situated at the posterior third of the dorsum. The greater part of it is of a deep black color, while at the margin it is lighter, being brownish; and surrounding this for about half an inch there is a whitish tinge. Behind the coloration are a number of light-colored nodules in the position of the circumvallate papillæ. The other parts of the tongue, except being slightly fissured, are normal. Upon stroking the patch with the finger from before backwards, it feels soft and smooth; while, on reversing the motion, it feels roughish, this being caused by the finger passing over what looks like a mass of black hairs. The discoloration is entirely composed of these black filaments, some of them of considerable length, with shorter ones intermixed. They can be detached easily with dressing-forceps, bringing along with them a portion of the subjacent tissue, which is light in color. The blackness commenced about two years ago, the patient feeling, as he describes it, as if his tongue were too large for his mouth; and, on examining it, he found a small discolored spot, which has gone on extending ever since. He has no pain in the tongue, nor any diminution in his sense of taste.

On microscopical examination of one of the filaments, it is seen to be composed of epithelial cells of a brown color, closely packed, and overlapping one another. In some cases, the centre of the filament is very dark, with a lighter margin; and in other cases it is the reverse. When the latter condition occurs, there appears to be a tendency for it to split down the centre. On examination from the apex of the thread downwards, the color gradually becomes less, till, at the point where it springs from the tongue, no staining of the cells can be detected. These filaments appear to be, as stated in the article by Mr. Stoker, the fringes of the papillæ greatly hypertrophied, and their cells stained of a brown color.

STRANGELY enough, none of the books tell how John Hunter was led to originate

the operation of ligation for popliteal aneurism. Prof. Chapman gives the facts as follows, and in parenthesis, some strong words about the anti-vivisectionists: "Hunter, finding the 'velvet horns' of a deer to be abnormally warm, tied the carotid artery; in a few days he was astonished to find that the bones were as warm as ever. He at first supposed that he had tied the wrong vessel, and cut down on his ligation only to find that he had not made a mistake in identification, and that the carotid was still occluded; further investigation showed that a collateral circulation had been established—a thing practically unthought of before. Deductions from this experiment were what led him to believe that the femoral artery could be tied without exsanguinating the limb, and he caused the experiment to be performed on a live dog, with success. After these experiments he performed the operation on a coachman, in 1787, in St. George's Hospital, on the walls of which still hang the deer horns, which, in John Hunter's hands, were the means of incalculable good to mankind."

—*College and Clinical Record.*

Two doctors meet—No. 2 is from the country.

No. 2. Good morning, Doctor. I am sorry to see you going around on crutches. What is the matter?

No. 1. I have partial paralysis of the lower extremities.

No. 2. Ah, indeed, what is the cause, rheumatism?

No. 1. No, I have progressive locomotor ataxia.

No. 2. Ah yes, I see, locomotor attacks, have you had *many*?

Bibliography.

ELEMENTS OF MODERN CHEMISTRY. (')

Little need be said in regard to the quality of a book which has passed through

1. By Adolphe Wurtz, (Senator,) member of the Institute, Honorary Dean and Professor of Chemistry of the Faculty of Medicine of Paris. etc. Second American Edition, Translated and edited from the fifth French Edition, by Wm. H. Greene, M.D., Professor of Chemistry in the Central High School, Philadelphia, Member Amer. Philos. Society, of Chemistry Societies of Paris and Berlin, etc. With 132 illustrations, London and Philadelphia: J. B. Lippincott & Co. 1884. Cincinnati; Robert Clarke & Co Price \$2.50.

five editions in its original language and is entering upon a second in translation. Few compliments are so highly appreciated by an author as the translation of his work, and the compliment is of especial value when the editions are so rapidly exhausted.

The Chemistry of Prof. Wurtz first appeared in France about fifteen years ago, in a form that would now be considered incomplete; but the author has carefully advanced the work with each successive edition, so as to keep pace with the advancements made in the science. In the last French edition, the chief improvement was the completion of the portion relating to organic chemistry, with numerous additions and corrections; and a number of entire chapters have been added on such subjects as the cyanogen compounds, hydrocarbons, acids and aromatics, making prominent the advances which have been made in the last few years.

In the first translation but little change was made; in this second edition, however, the metals have been reclassified so as to adapt them, as nearly as is consistent, to the theory of atomicity now generally accepted. A chapter has been added on chemical energy, together with a brief history of Mendelejeff's periodic law.

A very attractive feature of the work is the manner in which the author introduces the study of chemistry with a few of the more commonly observed natural phenomena, and gradually leads the student on to the more complex laws and theories. The statements are lucid, concise and as full as is consistent with an elementary work. The process of translation has not marred it. The volume contains 756 pages, nearly half of which are occupied by the organic portion.

J. M. F.

HISTORY OF THE DISCOVERY OF THE CIRCULATION OF THE BLOOD. (¶)

This little volume of fifty pages should be read by everyone who is not familiar with the history it narrates. The essay was delivered as a lecture at the Jefferson Medical College, last December, concluding the course on the circulation, and constitutes, we are told, the twenty-fifth chapter of a forthcoming work on Physiology, by the author. The chief aim of the writer ap-

pears to be to ascribe honor to whom honor is due.

He refers briefly to the erroneous opinions of the ancients with reference to the heart and blood vessels and to the difficulties they had to contend with in their anatomical studies. We are then told of the more liberal time, beginning with the dissections of Herophilus and Erasistratus (B. C. 304), with special reference to the heart, to which much was added 150 years later by Galen, whose views were so long unquestioned. Then follows a review of the opinions, many of them erroneous, of Mundini, de Carpi, and the Martyr, Michael Servetus, from whose *Christianismi Restitutio*, the author quotes and translates the passage in which the inter-communication of the ventricles of the heart, by means of minute apertures said to exist in the septum, is denied, and the claims on the part of Servetus for originality of the denial are weighed with those of Vesalius. Cæsalpinus, the first to employ the term "circulation of the blood" (1593) is referred to; the various steps in the discovery of the pulmonary and capillary circulations are given, and we are gradually brought down to the time of Fabricius of Padua, and his student, the illustrious Harvey, of whose life, and labors we are next given a brief account. This is followed by appropriate references to Malpighi and others who have demonstrated or amplified the truths which Harvey enunciated.

The essay shows an amount of original research that is truly commendable, but in a few instances the style might be considered somewhat pedantic, were we to forget that we are in reality dealing with leaves from a text-book, to which it is appropriate.

If we are to judge of the forthcoming work on Physiology by this chapter, the profession will certainly find in it a valuable contribution to medical literature.

J. M. F.

THE RELATION OF ANIMAL DISEASES TO THE PUBLIC HEALTH, AND THEIR PREVENTION. — (¶)

This volume contains a good deal of semi-scientific information, intended, we are told, for the benefit of the people of the United States. The author expresses in a

2. By Henry C. Chapman, M.D., Professor of Institutes of Medicine and Medical Jurisprudence, in Jefferson Medical College. Philadelphia: P. Blakiston, Son & Co. 1884.

3. By Frank S. Billings, D.V.S., Graduate of the Royal Veterinary Institute of Berlin, etc., etc. New York; D. Appleton & Co., 1884. Cincinnati; Robert Clarke & Co.

fearless manner very positive views on some very important subjects, and states in the preface, as an excuse for his ardor, that he desires the reader to remember that he is an enthusiast, having devoted his life and energy to the establishment of veterinary science in this country.

The apparent aim of the author is a commendable one. He endeavors to show first the causative relation of many animal diseases to similar affections in man, then prescribes means for their prevention. Very little space is given to the diagnosis or treatment of the diseases.

The work contains 440 pages and is divided into three parts. Part first treats of the diseases of domestic animals, and is further subdivided into chapters on the diseases of the hog, "trichinosis of man and animals," and hog-cholera; diseases of dogs, rabies and hydrophobia; and diseases of the horse, of which glanders is taken as the type and considered in all its forms. Part second is a history of Veterinary Medicine including an account of the establishing of veterinary schools in the different countries of the world. Part third is styled. The Means of Prevention." In it the author gives much valuable advice and designates many errors in the laws and customs now prevailing in the United

States. But some pretty severe criticisms are passed upon individuals who are, no doubt, honestly laboring in the same cause as the author professes, but are so unfortunate as to differ from him in opinions or methods. In fact, the spirit of criticism is pretty freely displayed throughout the book, and thrusts are given the medical profession, which in some instances a little better knowledge of facts, or a second thought would have caused to be omitted. Individual ignorance is, in a few instances at least, given too much prominence; and even the relentless-freaks of the capricious Cupid, by which individuals of a tubercular diathesis are too frequently made to unite in wedlock are laid on the shoulders of the "incompetent and avaricious medical profession." This diversion, by the way, is very properly followed by the phrase, "but to return to our subject," a phrase which is too often applicable, we think.

There is in the book, very little to interest the medical profession, since parts which would be most attractive, notably the chapters on "tuberculosis" and infection," were apparently written a few years ago, and have not been revised to suit the date of publication. Still, there is much information in the book and some excellent advice.

J. M. F.

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CORRESPONDENCE FROM PHYSICIANS PROMPTLY ANSWERED.

Original Articles.

MOUTH RESPIRATION.

By W. R. AMICK, M.D., Cincinnati, O.

During the last decade there has been considerable progress made in the science of medicine. Intelligence and the microscope are dispelling the darkness, rays of light are thrown into the chaotic places, and the heretofore unknown mysterious cavities are being explored and examined. But as soon as one mystery is explained, another is discovered or presents itself. When we advance to a certain level, and an examination of the surroundings is made, it is found to extend indefinitely, and before its boundaries are brought into the domain of intelligence another level is discovered.

Scientific medicine has been at work in these new fields, and not without results.

While we are contemplating the bacillus of tuberculosis, or the microbe of consumption, while we wonder how it is possible for a single cup of putrid water to contain more animalculæ than the population of the globe, while we are surprised to know that the very air which we breathe is full of lethal germs, we naturally look for a remedy in order that we may escape the morbid results that will be produced by this army of invaders.

The majority of remedies that are in use at the present time have been in the crucible of experience, and while quite a large number will be found that will bear the ordinary tests, and give considerable satisfaction, yet very few, if any, of them will stand the higher degrees of temperature. When we are asked to locate that sunny utopian clime where

The weary are at rest,
And bacterii *non est*,

we turn our faces toward the future and point toward a higher level, whose outlines are enveloped in mist, and we say that our imagination locates it there, yet the concentrated electric rays of science, thus far, have not been able to define its exact locality.

While it is pleasant and instructive to wander with science in the mists and mysteries of nature, suppose we turn back and ambulate in paths that are presented to us in every-day life.

When man was created, or evolved, as the case may be, certain organs were des-

tined to perform certain functions. The eye was constituted the organ of vision, to the ear was given the function of hearing, the lungs were constituted for the æration of the blood, and the nose the channel through which the air should pass during the acts of respiration.

Living and existing are terms which imply that something must necessarily precede this condition, and that the former are the result of the latter. This phase of the subject, interesting as it may be, we will not discuss in this article.

One of the physical means of support of this existence is the continued and re-oxygenation of the blood. For this process of nature to be performed as it was intended, respiration must be through the nostrils.

It might seem like a simple and harmless process to breathe through the mouth. So far as the act itself is concerned, it is very simple and quite easy. We speak of this, not because there is any difficulty in this method of respiration, but on account of the results that may follow such a practice. A person may go to sleep and during the night may have an attack of that, to some at least, king-terror-of-the-night, the nightmare; others imagine that they have received a visit from his Satanic Majesty, Nicholas the First. They awake and are nervous and frightened. In some cases the sufferers imagine that there are burglars in the room, when they cry out and make an effort to move, when they seem to realize that they are paralyzed. During this time there is a great strain thrown upon the nervous system, and after the attack has passed off, they feel weak and exhausted. The cause of all this is very commonly ascribed to late suppers, indigestible food, and exhaustion of the nervous system from mental over-work.

At the same time that we are willing to admit that these conditions may and frequently do cause nightmare, yet we have been able to verify to our own satisfaction that in some cases it is caused by breathing through the mouth while sleeping. Simply because a person goes to sleep with the mouth shut, and awakes with it in the same condition, it is not proof positive that they have not been inhaling the air through it. The same may be said of this condition as of snoring, as the latter is caused by the former. As soon as the sleeper returns to consciousness the mouth is closed, and the snoring ceases. Before sleeping, while

conscious, the mouth is kept closed, and this unmusical and inharmonious sound is not produced. It takes place during unconsciousness and the sleeper is not aware of it, and ceases with the slumber, hence the snorer will generally most positively assert that although he may possess many other attributes, snoring is an element that does not enter into the composition of his qualifications. Yet it is frequently found upon awaking that the mouth, tongue and throat are dry, thus proving that they have been breathing through the mouth.

A person does not feel as much refreshed after sleeping with the mouth open, but on the contrary, when the time arrives for them to get up, they are languid, and have a sense of fatigue and a desire to go to sleep again.

For those who have suffered from disease of the lungs it does not require any additional evidence to prove to them that the above statements are correct.

From the location of the teeth it is evident that the mouth was intended for the mastication of food and preparing it for the stomach, and the nostrils prepare the air for the lungs. This last statement may seem absurd, to say that the air is prepared for the lungs; nevertheless we mean what we say, and will present an instance or two to prove the assertion.

It is a known fact that a man can inhale through the nose for a certain time mephitic air in the bottom of a well without harm, but when he opens his mouth to answer questions or call for help, in that position his lungs are closed, and he expires (Catlin).

The man who kills the venomous rattlesnake or deadly copperhead, and stands over it, inhaling the air through the nose, is not affected, but if he breathes the atmosphere containing the effluvia that has been thrown off from the reptile, through the mouth, he becomes nauseated and very sick. It is reported that death has been produced in this manner. Ophidian hunters are generally well aware of this fact, and quite frequently snake-charmers, when exhibiting their pets and giving a history of their reptilian collection, mention the effect caused by inhaling the effluvia.

From the instances just related, it is evident that the air undergoes some modifications in its passage through the nose.

The openings on either side of the septum of the nose are not simple, straight

canals, but partake more of a compound nature, caused by the projections and curvings of the turbinated bones, and are covered or lined with mucous membrane. In the normal state this membrane is moist from its own natural secretion. This membrane also requires the stimulus of the air in order to produce a normal secretion. The air in passing through this chamber is warmed, so that it enters the lungs much nearer their normal temperature than it does when it is inhaled through the mouth. Hence there is less liability to produce a catarrhal condition, or cause any inflammatory or congestive condition of the lungs when respiration is through the nostrils.

The air is full of very fine germs floating about in all directions, and every time we breathe we draw some of them into the lungs, from the latter they pass into the circulation, and in this manner contagious diseases frequently spread. If the air is made to pass through the nose, a large number of these germs are caught by the moist mucous membrane, and then thrown out by expiration, hence they do not reach the lungs.

In view of the present wide-spread germ theory of disease, it would be interesting to know what per cent. or how many of those who are attacked by any of the epidemic diseases are mouth breathers.

It is evident that if the lethal properties of mephitic air or the toxic effluvia of poisonous reptiles cannot carry their power through nature's natural portals of the lungs, that contagion or infectious germs would also be arrested at this point. Even if only a portion of the bacteria were caught by the mucous membrane of the nose, the chances in favor of a diseased condition being induced by their presence will be lessened.

We are told that "the breath of life was breathed into man's nostrils."

On account of one of the freaks of nature's natural coincidences, we also have the function or sense of smell located in the same organ. The evidence, then, would seem to indicate that man should continue to inhale the atmosphere through the nostrils.

The inhaling of the air through the nose aids evolution, while if respired through the mouth, it has a tendency to induce or favor dissolution. For the sake of comparison, we might say that the air which passes through the nose before it enters the

lungs is as different from that which passes through the mouth as distilled water is from the common hydrant water. The nose acts as the percolator, where the great majority of the animalculæ are caught and prevented from passing into the alveoli of the lungs, and at the same time, the temperature of the air is elevated by passing over the warm surface of the mucous membrane.

The sense or faculty of hearing may be impaired as the result of mouth respiration. While the disease produced may be different in some respects from catarrhal deafness, yet it is so nearly allied to it that practically it could be considered as such. Mouth respiration, from occlusion of the nostrils, is undoubtedly a cause of deafness. We do not mean to say that pure mouth respiration, without any other abnormal condition, would necessarily lead to anything like a defect of hearing. As long as the Eustachian tube is patulous, and the tympanic cavity is properly ventilated, and there is not a sufficient amount of increased tension or of thickening to interfere with the membrane tympani or ossicles performing their respective functions, hearing will not be impaired.

As a result of nasal obstruction, there will be sooner or later a structural change, the result of the inflammation or congestion extending to the Eustachian tube, and involving not only the orifice, but also the lining membrane. This congestion is of the continuous or chronic variety, and as a result we have a thickening or hypertrophy of the mucous membrane. The increase in the thickening of the lining membrane must necessarily be at the expense of the canal in the tube, and as the hypertrophy increases, the calibre decreases. After a while, instead of a patulous, we have a closed canal. This condition then not only prevents the æration of the middle ear, but leads to an increase in the intratympanic tension, which necessarily produces deafness.

The constant inhalation of cold air upon the pharynx has a tendency to act as an irritant, and may produce congestion. If the follicles become involved, then we have presented the condition known as follicular pharyngitis.

Dry, sore throat, or that form called pharyngitis sicca, is not only a very unpleasant condition and quite annoying, yet it is commonly developed in the habitual mouth breather.

Mouth respiration is a habit that is frequently caused by some obstruction in the nasal passages, so that it requires an effort to respire through the nose. Or it may be that the obstruction is so complete that the air cannot be forced through the nasal passages. An occlusion of the nose from a tumor or a thickening of some of the parts that enter into the formation of these cavities will necessitate breathing through the mouth.

This form of respiration may cause asthma. This might seem like a statement that had been brought in from the most remote boundaries of a very lucid imagination, yet it can very easily be placed within the pale of reason. We have already stated that in respiration through the nose quite a large number of the germs that are floating in the atmosphere are caught by the moist mucous membrane and thus prevented from entering the lungs. The exciting cause of asthma, in many instances, is due to the inhalation of particles of dust or the pollen of certain grasses or plants. If the breathing is through the nostrils then quite a large number of these particles will be prevented from passing into the lungs. To that extent that we lessen the cause we also decrease the liability of an attack, or the seizure may be modified. However, the particles of dust, or germs, act chiefly as the exciting cause. In 75 or 80 per cent. of asthmatic cases there is a predisposition or predisposing cause existing. This consists of bronchial irritation or inflammation. The simple presence of the inflammation of itself, does not generally cause an attack, but the presence of an excitant is required. The inhalation of air impregnated with irritating germs is generally sufficient to develop an attack. The larger the number of these germs that are brought in contact with the bronchial mucous membrane the greater the prospect and the more pronounced the asthmatic fit. If there is that *something* in the mechanism of the nose that will prevent the germs passing through this organ, or even a portion of them, then it is evident that respiration should be through this organ. Nature can be assisted by art in these cases. If a person, asthmatically disposed, and especially sensible to certain forms of dust or pollen, will place cotton wool in the nostrils and then not allow any air to pass into the lungs through the mouth, they will find that they can breathe

this germ-impregnated-atmosphere almost with impunity, which without this precaution would speedily develop an attack.

The cause which induces mouth respiration may be located in the mouth or throat as well as in the nose.

There may be a complete or partial closure of the nasal passages, especially of the inferior meatus, and this is the principal portion of the nose that is concerned in respiration. This obstruction may arise from a deviation or bending of the septum. This condition may be caused by an accident or it may be congenital. The obstruction may be located in any part of the nose. It may involve only one side, then again both may be included. Probably one of the most common causes of nasal obstruction is a polypus. The polypi may be located in any part of the nasal passages, but more commonly in the central or posterior portions. If in the extreme posterior then it is known as a naso-pharyngeal polypus. There may be two existing at the same time, one upon either side of the vomer.

It is very evident that if mouth respiration is caused by an obstruction of this kind that the remedy would consist in removing the growth.

A polypus might exist in the nasal cavities for months and the possessor not know it. They probably would be aware of the fact that the throat was easily congested, or from a trifling exposure the voice would become husky, or that there was a tendency to breathe through the mouth. At the same time they would be annoyed with a constant hawking, endeavoring to relieve themselves of a something that appeared to be high up in the throat, not knowing that the cause of all of their discomfort was a polypus.

The nasal passages may be partially or even completely occluded by an exostosis of the bony walls. This is what we might call a tumor formed of bone. Then again the mucous membrane may become thickened or hypertrophied to such an extent as to completely prevent the passage of air.

A deviation of the septum does not necessarily prevent nasal respiration. It simply enlarges one of the passages at the expense of the other and is quite common. A burn or scald or even an extensive ulceration may act as the cause of an obstruction by producing a contraction of the soft parts.

Children sometimes put beads, buttons, seeds and other miscellaneous articles up their noses, and as a result of their presence irritation, inflammation, ulceration, an obstruction more or less marked is the ultimatum.

In the mouth enlarged tonsils probably stand at the head of the list of causes in producing obstruction to nasal respiration. When these glands become sufficiently enlarged they press backward against the posterior wall of the pharynx, filling up and occluding the space between the larynx and the post-nasal passages. When they are sufficiently enlarged to cause pressure upon the surrounding structures they then act as foreign bodies and are a constant source of irritation.

An enlarged tonsil may press the velum or curtain-like portion of the soft palate backward against the posterior wall of the pharynx, and in this manner prevent or at least greatly interfere with nasal respiration. A tumor springing from the soft palate, or from some portion of the pharyngeal wall may be the cause of mouth respiration.

An elongated uvula is quite frequently the cause of a hacking cough, and this may lead to non-nasal respiration. When the mouth is closed and respiration is through the nose, the pendulous portion of the soft palate is carried further forward in order to allow the air to pass freely from the post-nasal passages through the pharynx to the larynx. The uvula is a continuation or an elongation of the central portion of the soft palate, extending downward. When, as we have already stated, the mouth is closed, the uvula is brought close behind the base of the tongue. In this region we have located the epiglottis, or the guard-valve of the trachea. The uvula coming in contact with the epiglottis excites an irritation which is frequently accompanied with a tickling sensation and this produces the hacking cough. When the mouth is opened and respiration is performed through it, the soft palate is elevated and carried farther backward, and as the uvula is not only attached to, but a part of this structure, it is necessarily removed from contact with the epiglottis. This then gives relief from the very annoying tickling sensation and irritation and also the cough. The person thus afflicted finds relief in mouth respiration, and in this manner the habit may be acquired.

In quite a number of these cases there is

more or less deformity of the teeth, a disfigurement of the mouth and even of the entire face, retraction of the lips, depressed *alæ nasi*. The size of the orifices of the nostrils are diminished, the septum extends farther downwards than the *alæ*. In such persons nasal respiration is frequently accompanied with a wheezing noise. This is caused by the approximation of the *alæ* to the septum, lessening the size of the orifice and converting it into a chink. The air rushing through this narrow space produces the sound. It may be increased by mucus or the presence of hair in this locality.

Age is no respecter of persons and we all have to submit to the signs that are made by the wand of senility. In some these signs appear much earlier in life than in others. Those who enjoy good health and have a robust constitution do not exhibit them until late in the afternoon of life. Those who are possessed of a delicate constitution, but observe the laws of nature, may pass the meridian before the signs become visible. But, in the habitual mouth-breather, it is not uncommon for wrinkles, or crow's feet as they are frequently called, to make their appearance around the external corners of the eyes when they should be in the hey-day of womanhood or manhood.

When, from any cause, the power of vision is destroyed in one eye (we refer to uncomplicated cases of unilateral destruction of visual power), apparently, and no doubt with some reality, the sight in the remaining eye is increased. Again the power of hearing may be destroyed in one ear and sensation appears to concentrate the entire brain force of this function in the other ear. The same might be said of other organs or members of the body. This law of compensation does not apply to the nasal organ. If one side of the nostril is closed the other does not dilate to that extent that it can be said to compensate for the obstruction. The reverse of this is very liable to be the result, and the contraction or closure of one side may be the cause that will produce congestion and thickening in the other. Then, as the amount of air that is required by nature for the proper oxygenation of the blood cannot pass through the nose, mouth respiration will become a necessity.

It is stated that the Indian squaws when they put their infants to sleep always notice

the child's mouth. If it is not firmly closed they gently press the lips together. So the Indian during papoosehood, whether suspended from a limb, by the handle of the cradle, or leaning against a tree or flung across the squaw's back, is not only taught but made to respire through the nose. The intellectual white man might possibly learn a lesson from the ignorant red man in this department.

FOLLICULAR PHARYNGITIS.

A Paper read before the Academy of Medicine,
June 2, 1884.

By A. B. THRASHER, A.M., M.D.

There is no little confusion among members of the medical profession in regard to the diagnosis of diseases of the throat. A physician of large practice and no little ability once told his students that he was accustomed to divide diseases of the throat into two classes, viz.: when the case was mild his diagnosis was *sore throat*; when severe it was *diphtheria*. This division, he claimed, was very satisfactory to his patients, and the mere name was of no importance to him.

Not long since I was summoned to see a little girl who was suffering, so I was told, "from another attack of diphtheria." She had these attacks two or three times a year and the family physician told the parents that the disease was diphtheria, modestly adding that "his method of treating diphtheria was very successful." On examining the case I found *pharyngitis catarrhalis acuta*. It is hardly necessary for me to add that my treatment of this case of diphtheria (?) was also "very successful."

Thus it not infrequently happens that diseases whose pathological changes lie open to the eye are not recognized by the physician who will not hesitate to pronounce positively in reference to the condition of the hepatic interlobular connective tissue or of the cerebral multipolar ganglion cells.

This confusion in nosology is by no means confined to the general practitioner. Specialists who are recognized authorities on these subjects are equally at variance. Morell Mackenzie gives *follicular pharyngitis* and *granular pharyngitis* as synonymous terms. Carl Seiler describes them as two different diseases with a different etiology and different pathology. Wendt describes both of these affections under

the head of *chronic catarrh of the lower pharynx*.

As a matter of fact almost every variety of inflammation of the pharynx is accompanied by more or less involvement of the mucous follicles. But in follicular pharyngitis the pathological changes are chiefly in the glandular tissues.

ETIOLOGY.—The causes of this disease are remote or predisposing, and immediate or exciting. (a) A gouty, strumous, or rheumatic diathesis is said to frequently underly it. I think this is especially the case with the strumous diathesis which, to my mind, is the most powerful predisposing factor. Here we have a constitutional tendency toward morbid changes in the glandular tissues of the body and a number of causes may direct these changes to the pharyngeal mucous follicles. A throat damaged by previous disease, such as diphtheria, scarlatina, etc., is more liable to any form of disease and hence to follicular pharyngitis. Syphilis is thought to render the pharynx specially susceptible to inflammations. Bad hygienic surroundings, by lowering the general vitality of the system, render the throat more vulnerable.

(b) A wrong use of the vocal organs is a potent factor in the etiology of this disease. Hence the frequency with which it affects singers, public speakers, auctioneers, etc. Morell Mackenzie says, "In those of sound constitution and good muscular development considerable exercise of the vocal organ is not followed by any bad effect, but, on the contrary, such exertion rather acts as a local tonic." And I might add that if the exercise of the vocal organ is properly conducted a weak pharynx may be made stronger; but even a strong throat will be sooner or later damaged if the voice is improperly used.

Sometimes disease of the pharynx follows disorders of the stomach and this may in certain subjects assume the form of follicular pharyngitis. The irritation caused by acid eructations coming in contact with the delicate mucous membrane of the pharynx has been assigned as the cause of this trouble. I have, however, seen it follow when there were no perceptible eructations. Then it seemed rather to be a reflex nervous phenomenon, due to the transmission of irritation from the terminal fibres of the vagus in the inflamed gastric mucous membrane through a filament connecting the ganglion of the root of the nerve with the

superior cervical ganglion of the sympathetic system from which the vaso-motor fibres of the pharyngeal plexus arise, and through direct anastomoses of the pharyngeal branch of the par vagum with the sympathetic as they together enter into the formation of the pharyngeal plexus.

The use of tobacco is frequently assigned as a cause. There is but little doubt that excessive smoking may cause it, but I do not think that it has been yet proven that the moderate use of tobacco exercises any deleterious effect on the mucous membrane of the pharynx. I well remember an inveterate smoker who was under my treatment for this affection. We both thought that smoking was the cause of his trouble so that he reluctantly abandoned the habit. After six months' treatment, his throat getting but little better, he again began smoking. His improvement dated from the time he resumed his old habit and it was not long until he was entirely well. He latterly smoked much more moderately and my theory is that it supplied just the proper amount of stimulation for his throat and hence his rapid recovery.

Cigarette smoking seems to exert the most injurious effect—possibly because of the excessive amount of smoking in which an average cigarette smoker will indulge. A cigarette can be smoked at odd times when it would be hardly worth while to light a cigar and as a consequence the aggregate amount of tobacco consumed may be greater than if cigars were used. Many of the cigarettes are said to contain injurious materials which add to their irritating properties, but of this I know nothing.

Workers in an atmosphere loaded with dust or with irritating gases are said to frequently suffer from this disease. In my experience these mechanical and chemical irritants more frequently give rise to nasopharyngeal catarrh, and when the throat is involved it is by an extension of the inflammatory process.

"Catching cold" is more frequently assumed as the exciting cause than all the other factors mentioned. Just what is always meant by "catching cold" it is difficult to determine. Exposure to a low temperature is not any more frequently followed by follicular pharyngitis than is exposure to a high temperature. If, however, the skin be relaxed by long contact with warm air and then be suddenly ex-

posed to cold for a prolonged period until the body is thoroughly chilled, this seems to give rise to an active hyperemia of the internal organs; and, if there is a predisposition to pharyngitis, the congestion of the pharyngeal mucous membrane may be followed by true inflammatory changes. People who live in close, over-heated apartments are no doubt frequently subjected to just such conditions.

The exciting cause, it will be observed, is sufficient to produce pharyngitis, but the kind of pharyngitis will depend on individual peculiarities.

PATHOLOGY.—Mackenzie (*Diseases of Throat and Nose*, vol. i., p. 50) quotes the following as the result of a microscopical examination of a case of follicular pharyngitis: "The tubules of the follicles were found considerably enlarged, both as regards the diameter of their cavity and the thickness of their walls. In the follicles which were most hypertrophied and indurated, small calcareous concretions were discovered, composed principally of carbonate of lime. In some of the glands these concretions were numerous, and packed together so closely as to present, when detached, a crystalline appearance, owing to their surfaces having been moulded into polyhedral, faceted figures. On the other hand, the cellular tissue connecting the secretory tubules and the epithelium lining their internal walls presented but little departure from the normal condition beyond a slight thickening. With respect to the vessels of the hypertrophied follicles, their capillaries showed no perceptible change, but on the whole the diseased glands appeared to be less vascular than in the healthy pharynx."

When there is considerable hypertrophy of the glandular tissue the normal squamous epithelial cells give place to round, swollen cells, which sometimes block the orifices of the mucous glands and cause a retention of the secretions.

The retained secretions undergo degenerative changes with above given results.

SYMPTOMS.—Owing to differences in the extent of the disease and to individual peculiarities the symptoms in different cases are very various.

The patient's attention is usually first directed to the condition of his throat by a peculiar irritable sensation and a dry, hawking cough. There may or may not be a soreness felt during deglutition. The

throat will be dry and stiff and pains of various kinds may be felt. The pain is rarely of an acute character, but more generally there is felt a tickling or burning or raw sensation in the throat. If the subject be a public speaker or singer these annoyances may prove sufficient to prevent him from protracted use of the voice. An attempt to force the voice, in spite of nature's warning to desist, will be followed by an extension of the disease to the larynx and consequent hoarseness or even aphonia. The secretions from the inflamed glands will be tenacious and difficult to get rid of. Protracted spells of coughing may thus be induced.

These symptoms may all subside without treatment and nothing abnormal be noticed until there is another exposure to some of the exciting causes. The exacerbations of the disease will become more and more frequent until some of the troublesome symptoms will not subside. The cough may be of a dry character and closely simulate that of incipient phthisis. There is a liability to an extension of the affection upward to the retro-nasal space or downward into the larynx giving rise to the additional symptoms indicative of these troubles.

An ocular examination of the pharynx readily reveals the disease. This examination can be made without any accessory instruments by having the patient face a strong bright light. However, a large head mirror and a strong tongue depressor will be found to facilitate examination and treatment. If there are symptoms of extension of the disease upward or downward the rhinoscope and laryngoscope will be required to make the examination thorough. Seat the patient with his back to a window, or argand burner with a condenser, and with the head mirror direct the rays of light to the posterior wall of the pharynx. Have the patient hold the tongue depressor, as thus both hands of the operator will be free, so as to bear most firmly on the base of the tongue, which is to be pressed downward and forward. The whole of the pharynx will thus be exposed to view.

The follicles will be seen enlarged and raised above the general surface of the pharyngeal walls. They will be of a deeper red than the surrounding tissue, sometimes of a brownish hue. It is possible that a grayish exudation may cover the whole surface, in which case it must be re-

moved before the examination can be completed. There may be but few of these hypertrophic patches scattered over the posterior wall, each patch surrounded by a hyperemic zone. Or, they may be arranged in clusters, usually arranged so as to form a long flat island of hypertrophic tissue the long diameter of which is, as a rule, parallel to the pillars of the fauces. Or, these patches may be so thick as to coalesce and cause a general thickening of the mucous membrane. The tissue between these small elevations may be dry and shining and over it swollen vessels tortuously coursing may be seen.

The normal secretions of the pharynx are wanting and the surface is usually quite dry, except over the hypertrophic tissue which is moist and spongy. A whitish secretion can sometimes be seen pouring out from the swollen mouths of the diseased follicles. This secretion forms the exudation which, as I have above remarked, is at times observed. This exudation is frequently very tenacious and troublesome to remove. The secretion of the glands may be very dry and appear as caseous plugs, which can be pressed out of the central aperture of the elevation. As the disease progresses the dry character of the tissue changes, the hypertrophic masses enlarge and coalesce, and the whole pharynx becomes covered with a thick secretion which may be mistaken for a diphtheritic membrane. When the connective tissue proliferation has proceeded until the lumen of the vessels is encroached upon, then, from the consequent diminished blood supply and the normal contraction of the scar tissue, atrophic changes take place. The secretions become very much lessened in amount and the spongy hypertrophic tissue shrinks and becomes dry and harsh. The whole pharynx assumes a relaxed condition. The uvula becomes œdematous and elongated so that it may be a source of annoyance by resting on the base of the tongue or by dropping into the chink of the glottis.

The tonsils usually partake of the general glandular hypertrophy and many deep crypts from which a muco-purulent secretion is oozing may be seen over their surface. The secretion from the tonsillar lacunæ is at times so free as to be a source of considerable annoyance to the patient who must be continually clearing his throat.

Will this disease lead to pulmonary consumption? The majority of writers claim that it will not. Morell Mackenzie says: "I cannot at all acquiesce in the opinion * * that pulmonary phthisis can ever owe its origin to granular pharyngitis."

It is true that many patients thus affected ultimately die of phthisis; but I think that it is because both of these diseases so frequently affect strumous people. I can readily conceive that a severe follicular pharyngitis may so weaken a patient who is predisposed to phthisis as to be the inciting cause of the disease; but not by any means in the sense of an extension of the disease from the throat to the lungs by continuity of tissue. There is much more danger of the involvement of the adenoid tissue at the vault of the pharynx, occlusion of the orifices of the Eustachian tubes and a consequent impairment of hearing. Inflammation may even be set up in the middle ear with the whole train of accompanying dangers.

TREATMENT.—By way of prophylaxis people of a strumous diathesis should avoid in general anything which would lower the general tone of the system and in particular any source of direct irritation to the throat. Hygienic methods of living should be adopted, so as to maintain the very best general health. Morning cold baths should be used so as to render the surface of the body less susceptible to the influence of changes of temperature. The ventilation of the living apartments should be carefully looked after and this should especially be the case with the sleeping chamber. Over-heated or crowded rooms should be avoided. During cold weather the living rooms should be heated by a stove or furnace, and not by a fire-place, so as to avoid the cold drafts engendered by the open fire. Should an ordinary pharyngitis be excited extraordinary care should be taken in its reduction. Any affection of the pharynx should be subjected to the most careful treatment until it is entirely well.

After the disease has become well established the treatment must be directed (a) towards the constitutional dyscrasia, if present; and (b) towards the local manifestation. It will not be necessary for me to here enter into the general treatment of struma. I would only suggest that kalium iodidum, in small doses, has, in my practice, had an admirable effect in reducing

the general glandular hyperplasia. Tonic treatment must usually be combined with this remedy. An occasional Turkish bath is, I think, an excellent adjuvant.

Locally the indications are to remove the abnormal secretions and reduce the hypertrophic patches. If an exudation be present it must first be removed, otherwise remedies can not be directly applied to the diseased tissues. This can be done by means of a spray, a brush, or a curette. Unless the secretion is very tenacious a warm, alkaline spray will answer to remove it and with the minimum of discomfort to the patient. If, however, the secretion can not be thus removed a brush or swab of cotton may accomplish the object. These failing a curette may be used, as it is necessary that all of the secretions be removed before local treatment is attempted.

After the surface is thoroughly cleansed the patches may be each touched with an astringent, a caustic, the actual or thermo-cautery, or may be removed with the curette. If the severer methods of treatment are used not too large a surface must be operated on at once.

Correspondence.

FOREIGN CORRESPONDENCE.

GÖTTINGEN, JUNE 24, 1884.

Editor Lancet and Clinic:

Occupying the chair of medicine in the University here is Prof. Ebstein, known to American readers by his article on "Diseases of the Pelvis of the Kidney and Ureters" in Ziemssen's *Cyclopædia of Medicine*, and more especially to English readers by his recent work on *Corpulence and its Treatment* of whose utility and success he is a living example. The work on "Corpulence" has been translated into English, and is founded on the methods and means employed in his own case, whereby he reduced his own weight from considerably over 200 pounds to about 150. He is a careful, painstaking diagnostician, a clear speaker and as a teacher and lecturer is probably the most popular here. Every case, no matter how simple it appears, is thoroughly examined by all the methods of modern investigation, the possibilities of the case discussed and finally the diagnosis is made; then the patient's history is brought out. In this manner the habit of

close and thorough examination is impressed upon the student, every organ and system being investigated. Lack of complete and thorough examination is, probably, the cause of more false diagnosis than a want of knowledge, still even the most searching investigation does not always lead to a correct diagnosis. In the clinic of Prof. Ebstein we have had some very interesting cases recently, more interesting however pathologically and clinically than practically. Fothergill sounds the key note when he states that the Germans are fine diagnosticians and pathologists, but poor therapists; their desire is, probably, not to cure the disease, but to study its ravages on the post-mortem table.

A man forty-two years old, was admitted to Hospital, complaining of gastric disturbances, pain, vomiting after eating, and now and then hæmatemesis; severe sacral pain; bowels acting naturally and regularly; has lost considerable flesh within the two months during which time his disease had lasted. Physical examination revealed nothing abnormal except epigastric tenderness. Diagnosis, 'Ulcus Ventriculi,' the diagnosis being based on Cruveilhier's aphorism that in a case presenting no physical signs for the differentiation of carcinoma and ulcer ventriculi the presence of marked tenderness was presumptive evidence of the presence of an ulcer. Patient placed on milk and confined to his bed. During his six days stay in Hospital he vomited matter consisting only of milk; bowels still acted regularly and naturally. During the sixth night he sank into a state of collapse, but complained only of an exacerbation of the sacral pain. Examination showed peritonitis over lower abdomen, and dulness in right iliac fossa. Diagnosis perforation of stomach with escape and gravitation of contents to right iliac fossa. Patient lived only eleven hours. Post-mortem showed nothing abnormal in stomach, but at junction of descending colon and sigmoid flexure was an intussusception about six inches long, probably caused by a myoma, as large as an English walnut adherent to internal intestinal wall. Just above ileo-cæcal valve was found an ulcer, as large as a silver dime, and to all appearances identical with the typical typhoid ulcer. Invaginated bowel, black and gangrenous, perforated at two points. General peritonitis, but nothing to account for the dulness in the right iliac region.

Given such a case would it be rational surgery to open the abdomen and attempt to relieve the peritoneal cavity of the offending material? The diagnosis was ulcer of stomach with perforation; what better could be done in any case of perforation than remove the escaped materials and attempt to close the perforation?

Admit the false diagnosis; yet it was the proper treatment for the intussusception. Will laparotomy, in cases of shock from intestinal perforation with escape of contents, ever become a recognized surgical procedure? From Dr. Park's paper on 'Gunshot Wounds of the Intestines' read before the American Medical Society in Washington, we see what can be done in intestinal surgery. Bold surgery it must be admitted, but what severe surgical procedure was not at first so characterized?

Patient æt, twenty-seven admitted with following history; ten weeks ago while eating soup was suddenly seized with a severe attack of coughing and dyspnoea which lasted for several hours. They gradually diminished until patient was comparatively comfortable, but still dyspnoea and some cough remained. Such has been his condition since, the cough and shortness of breath being increased by exertion.

Physical examination revealed a space about as large as the hand just under angle of right scapula dull on percussion, and on auscultation yielding crackling rales and an expiratory murmur. Signs also of general bronchitis over both lungs. Patient placed on apomorphia gr. 1-16 every four hours and during the third night following the inception of the treatment in an attack of coughing the patient expelled a piece of bone about the size of a lente or split pea, and which was the cause of the trouble. Prof. Ebstein said this was the third case in which apomorphia in his hands had caused the expulsion of foreign bodies in the air passages. He gave us no explanation of its special fitness for such cases but recommended it very highly.

Within a week past we have had two cases, both proving fatal and yet, so far as causation of most prominent symptoms, both being pure neuroses.

One a man, forty-six years of age, for six weeks has suffered from clonic contractions of the right sterno-cleido-mastoideus and trapezius muscles, recurring every fifteen or twenty seconds whereby the chin was turned to the left and at the same time ele-

vated. Otherwise he was perfectly healthy, nor could he assign any cause for his trouble. Everything has been tried but without avail so Prof. E., cauterized the posterior upper cervical region with the Paquelin cauterizer.

The patient, however, continued to grow worse, the convulsions which at first ceased during sleep were now constant, thus robbing him of all rest and morphia in large doses hypodermically did not relieve the attacks. Finally, the patient became cyanotic over the entire body, unconscious with stertorous respiration and died. Post-mortem examination revealed, as Prof. E. prophesied, absolutely no change about origin of accessory nerve to account for the convulsive movements, nor was there anything else to account for death.

Only this morning an autopsy was made on a patient and which showed nothing to account for death. A woman aged thirty-three, mother of two children, youngest four years, married the second time eight weeks ago. Previous to commencement of present trouble perfectly healthy. Six weeks ago began to suffer with intense head ache, this continued for about three weeks when dizziness and vomiting also ensued. About this time she was compelled to keep her bed; her condition grew worse and about a week ago she was admitted into the Hospital. Pulse varied from 70-80, temperature 101°, semi-conscious, aroused only by very loud tone of voice, gave no rational answers to questions, entire body especially lower limbs very sensitive to pressure, patient crying out when pressure was made, urine and fæces passed involuntarily; no signs of paralysis, but slight muscular rigidity, absence of reflex action, slight albuminuria, roseola on back and abdomen.

Diagnosis not made on admission of patient, but case was carefully watched and when on the third day paralysis of the right abdomen appeared then meningitis was diagnosed. On fourth day paralysis of right oculo-motorious supervened, and paresis of right side of face; pulse 120, temperature 103°. On sixth day a general convulsive attack followed by stertorous respiration and in two hours death. Autopsy showed nothing except a central myelitis, especially well marked in the cervical portion of the cord, no traces of meningitis or any cerebral trouble.

The question at once presents itself what was it?

A practical point in physical examination is the determination of not only the heart's dulness but also its resistance. The dulness showing only the part in contact with the chest wall, while the resistance shows, notwithstanding the overlying lung, the absolute cardiac area. The dulness is decided of course by ordinary percussion, while the resistance is determined by pressure of the finger tip on the pleximeter. The extent of the resistance is determined by the difference in feel of simple lung tissue and that overlying a solid organ, like the heart. In cases of hypertrophy and dilation of the heart this is of course very important, and it is claimed by German observers to be much more reliable than simple percussion.

In cases of rachitic chests, however, attention must be paid to the relation between cardiac dulness and resistance, because the expansion of the lungs is diminished and the relative dulness is increased while the relative resistance is diminished. It must be confessed it requires great skill to use this method properly and yet skill in the use of diagnostic means, approximating perfection as nearly as possible, should be the ambition of every medical man.

WILL H. KELLY, M.D.

Society Reports.

ACADEMY OF MEDICINE.

Meeting of June 23, 1884.

Gunshot Wounds.

DR. YOUNG reported that twenty-seven cases of gunshot wounds were treated by him at the Cincinnati Hospital. This constituted about one half of the wounded received at the hospital during the late riot. The first thing noticed was the character of the injuries and the effect of the ball on different parts of the body. The bullet generally passed through the body with little laceration of the external surface. Two balls were removed, and were found shortened and uniformly expanded. The character of gunshot wounds depends upon the ammunition employed, the amount of powder, the size of the bullet, its velocity, and the object with which it comes in contact. It was evident from the cases under treatment that the guns had a smaller bore, and the bullets a greater velocity than was generally the case during the rebellion.

The general condition of the men received demonstrated that they belonged to an improvident class of people. The presence of alcohol could be detected in almost every case, and gave evidence of little physical or moral endurance on their part. Speaker hence began treatment on the principle that nearly all were habitual drinkers. Milk and whiskey were freely administered, the latter varying in amount according to the habits of the individual. Morphine was given to everyone, guided by the location of the wound and the amount of suffering. For cleanliness carbolic acid was employed for two days; after that, when disorganization and suppuration had set in, Labarraque's solution was used. Nothing more completely deodorizes and removes effete matter than the latter agent. The dressing varied with the location of the injury; in those connected with bone boracic acid was employed, in some alcohol and water, and in wounds of the feet poultices were applied from the beginning.

Location of wounds.—One scalp wound, probably contused; one wound of eye, produced in close contact with explosion of gun, now has traumatic cataract; one flesh wound of the neck, entering posteriorly and emerging in front, missing the blood-vessels; six wounds of the chest, one a flesh wound and four penetrating, three of which died, and and one a complication, the ball passing into the shoulder, fracturing the clavicle, wounding the lung and cutting the brachial plexus. The latter injury was followed by paralysis, but the patient is now recovering and left the hospital several weeks after admission. The number of complications was remarkable. One involved hand and hip, another arm and abdomen; another, hand and both legs; two, both thighs; two, penetrating wounds of thighs with injury to veins; two with both legs, and two with compound fracture of the femur. In one case where the ball entered above and to the right of the umbilicus, and emerged above the posterior superior spinous process of the ilium, the abdomen was greatly distended, though the cavity was not penetrated; the same patient also had compound injury of the elbow joint. The wound of the abdomen improved, but the man died April 7, with symptoms of inflammation of the peritoneum, which formed the inner wall of the ball's track, and which was found to be necrosed. No suppuration of elbow. One was a wound of shoulder joint in a boy just recovering

from typhoid fever; was in collapsed condition on arriving at hospital; the head of humerus was exsected. The boy was unconscious for three days, subsisting on whisky, milk and quinia. During the progress of the case the wound reopened, suppurated, and was still discharging slightly when he left the hospital. Boy was in improved condition, with considerable motion at shoulder. In the case referred to in connection with wound of abdomen and elbow joint, the end of the humerus was shattered, the ulna was ploughed through, and the neck of the radius shattered into numerous fragments. Another man suffered with flesh wound of arm; dressed with boracic acid. In one wound through the hip water dressing was employed. Speaker has found that quite as much suppuration occurs with the use of boracic acid as with water dressing. Yet the former is preferable since it coagulates the pus and thus enables us to keep the wound clean, and prevents saturation of dressing and bedding. There were six cases of flesh wound of the thigh; two involving both thighs, two with injuries to veins; one was followed by great swelling, patient unconscious at times and breathing stertorously. Patient was put upon whisky, beef tea, quinia, etc., and the limb was enveloped in poultices. The inflammation subsided, and recovery gradually took place. Speaker was called to see the other man on account of a hemorrhage. This was controlled by a Martin's bandage, which was allowed to remain half an hour, when hemorrhage ceased. The internal saphenous, and probably the femoral vein, had been severed, since blood escaped from opposite sides of wound. The veins grew almost varicose, and the limb distended. The same treatment was adopted as in the former case; the thigh healed, but the heel became gangrenous; prospects for recovery good. There were three cases of fractured femur, one of them with severe shock, but he rallied. Thought this a case for amputation, but the patient would not submit to an amputation. Applied plaster of Paris dressing, enlarged wound for sake of better drainage, and dressed it with boracic acid. Pain was intense, and death occurred April 2. The second was a man aged fifty-seven, with the injury in the upper third; similar dressing and boracic acid was employed. At the end of two days he began to complain of pain; stimulants were freely given, but collapse set in and the man died on the seventh

day. The third was a young man; the ball had passed through the hand, tearing out the palm, then through the upper part of the femur, which it shattered into fragments five to six inches in length. He died April 8. Pulse had never fallen below 130. No suppuration in any of these cases. There were four wounds of the ankle joint; in the first the ball went through the malleolus, shattered it, and tore the joint into pieces. The case was an unpromising one, and the patient was unwilling to submit to an operation. Leg was dressed with plaster of Paris and boracic acid applied to the wound, which was enlarged to secure better drainage. Patient was a healthy, temperate man; the extremities are now uniting, and new bone is formed. The other leg, which was also wounded, is doing well. This was one of the severest cases of gunshot wound of ankle that speaker had ever met, and amputation, in his judgment, was the only rational course to pursue at the time, but the fixed plaster dressing and the boracic acid promise fair to save the limb. The second occurred in a beer drinker; the injury was not as severe as the former; amputation performed; subsisted on whiskey and milk for five weeks before he was able to take any other food. On the morning after the amputation severe capillary hemorrhage occurred, which was controlled at the time by hot water, but it soon recurred and continued for three days, when it became necessary to open the flaps; wound is now healing.

One man was shot through the leg at a higher level; the bone was fractured, bleeding profuse; next morning patient was collapsed from hemorrhage. Amputation was performed, and was followed by death in three hours. Another case of simple flesh wound has recovered. One injury of foot; poultices applied, and man recovered.

DISCUSSION.

DR. NICKLES remarked that boracic acid had been used as an antiseptic elsewhere for a long period before it had been used in this city; that long ago Nussbaum had claimed for it this property.

DR. YOUNG agreed that it had been used extensively, yet it had not been applied in mass to a compound injury as an absorbent. The absorption of the discharges from the wound prevents saturation of the dressings, thus making plaster of Paris available in all compound fractures.

DR. TANGEMANN. Speaking of the use of

boracic acid as a new agent in surgical dressings, the essayist stated that he could not find a case where the pulverized crystal was applied directly to a wound. I would state that boracic acid has been used as an antiseptic for the last five or six years at Prof. Seeley's eye and ear clinic. My friend Dr. Caldwell, after enucleating an eyeball, filled the orbital cavity completely with the boracic acid powder with the most gratifying results, and as for anything new coming from the Cincinnati Hospital, such a thing cannot be found in the annals of its history. We may safely take it for granted that any drug or procedure employed at that institution has been accepted the world over before it is given a thought there.

Concerning the use of carbolic acid as an antiseptic in the strength generally used, it certainly seems to me to be a most ridiculous thing for a surgeon to persuade himself that when he washes his hands and instruments that he has disinfected them. It is mere child's play, it is simply accepted as handed down by the forefathers. The question we should ask ourselves is, what are we using this one half per cent solution for? If we are employing it for its antiseptic properties, then of course we should not be satisfied until we have convinced ourselves whether this agent possesses those properties. According to experiments which can easily be made in the laboratory, such as made by Koch when investigating the subject of disinfection, many of which experiments I have myself verified, prove beyond a reasonable doubt that carbolic acid, even in a five per cent solution, has no antiseptic properties worth mentioning, since micro-organisms will live and grow in a five per cent solution of carbolic acid for days. It is a generally accepted fact that suppuration after an injury or an operation is due to an infection produced by a micro-organism. Antiseptics are employed for the purpose of destroying these germs, and since carbolic acid has not this property, why employ it? The majority of surgeons of Europe have long been dissatisfied with the old list of disinfectants, and when it was proven experimentally that they were inert, they were ready to accept such drugs as were shown to have the requisite properties of an efficient antiseptic. Corrosive sublimate was suggested as one of the most active, and while it is efficient it is perfectly safe. It has the strength to destroy bacteria in proportion of 1 to 100,000, while it is gener-

ally used much stronger. Many of the most prominent surgeons of Germany, controlling the largest surgical clinics in the world, use the sublimate dressing exclusively, and their results have astonished themselves as well as the surgical world in general.

DR. NICKLES said: carbolic acid is antiseptic and destroys bacteria; it is well established that in proportion of one to two hundred it will kill bacteria, while corrosive sublimate 1-25000 will act similarly. Nussbaum and Billroth are to-day using carbolic and boracic acid. That suppuration is due to bacteria is not true; it is simply due to an exudation and multiplication of white corpuscles.

DR. YOUNG said that he had used carbolic acid not on account of faith but fashion. There is no doubt of the value of cleanliness. Employed the carbolic acid only for a few days, and then cleaned the dishes with Labarraque's solution. In gunshot wounds passing through the body, speaker has noticed a discolored ring around the wound, which would slough away. Suppuration is inevitable, and those who employ the bichloride meet with as much as those who do not.

NEW NERVOUS DISEASE. — He hung his hat on the floor and attempted to go to bed with the bootjack, remarking that "Booze-back ole fren fam'ly. Good old Booze-back."

"You are intoxicated!" indignantly exclaimed his disgusted wife.

"Toxified? S'no such thing. Don't drink m'self. Whoop! Horse on you! Yawhoop! Once again for the beer!"

"Ugh, you brute! If you are not intoxicated, what ails you?"

"S'new disease of nervous sis—sister—system. S'quite common for medical students to s'perience syms—syms—symptoms of disease they're studying. Been called to see a man wiz tremens. Bad case! That's all. Never drank drop in my life. Whoop!"—*Pittsburg Chronicle*.

TALL GUESSING. — A candidate for license to practice medicine in North Carolina, and by the way an unsuccessful candidate) when asked "Who discovered vaccination?" replied "Virch-cow."—*N. C. M. Jour.*

"Death owing to visitation of Providence under suspicious circumstances," is a coroner's verdict in Munster.

THE CINCINNATI LANCET AND CLINIC

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SUBSCRIBERS TO THE LANCET AND CLINIC who have not already remitted their subscription will confer a favor on the publisher by promptly doing so

Cincinnati, July 19, 1884.

The Week.

KOCH AND PASTEUR.—There are positively no two names that have appeared before the profession and the laity, linked together and alone, as often as the names of Koch and Pasteur. To-day they are prominently before the minds of the German and French people. The former crowned with laurels that he won in active service and praised by all nations for his great courage and self-denial. The latter is damned and cursed for his incompetency by his own people, and the stigma rests heavily upon him, and we can well see from the following, which is an editorial in the *Intransigent* (by Rochefort). He appears in an article under the heading of "The Scientific Lights."

He says: "Why don't you speak, great lights? Are these cases of cholera that appear with the rapidity of lightning at Marseilles sporadic or local? Individuals are stricken down almost instantaneously while walking on the street. And you, grand and mighty Pasteur, who receives a yearly rental of 25,000 francs for the purpose of killing in mass the microbes which you publicly announced to have discovered and analyzed, will you not appear on the

scene of devastation soon and command a halt! About a month since, you had it announced in all the scientific journals that the cholera and hydrophobia microbe was thoroughly understood and studied by you. If this is true why do you not take your protege, Paul Bert, with you to Marseilles where there is plenty of material to develop your genial knowledge. And, if it is not true, O great and wonderful Pasteur (shepherd)—who is not willing to sacrifice his life for his sheep—keep your medals and marks of honor that you have obtained by deception, for we cannot do anything with them, but do pay back the 25,000 francs that you received. If we must die with cholera it can be tolerated, but that you and your pitiable colleagues should receive a benefit therefrom is simply beyond endurance."

The above is the feeling of the French nation against Pasteur, and we ask, does he deserve this severe and scathing criticism? The very fact of his present indifference in the face of the terrible scourge that is carrying off hundreds of his countrymen, men who should be dear to him, is sufficient to make it just, while there may be many other reasons; this one shows that he hesitates because he is either not capable of doing anything, or else is afraid and therefore a coward. It is hardly probable that he is competent to make any accurate original scientific research that will stand a crucial test if we judge from his former writings, for those that really amount to anything are transcriptions.

While Pasteur is at home, viewing the epidemic at Marseilles from a distance, filled with fear lest some harm might befall his precious body, the illustrious Koch hurries from Berlin to the field of danger, ready to sacrifice his life for the benefit of science and humanity. He felt it his duty as one whose recent experience rendered him capable to judge as to the nature and cause of the disease, and the citizens of the afflicted place appreciated the service, in

honor of which they raised a purse of money and presented him with it as a token of their great esteem for his courage.

CHOLERA.—The cholera made its appearance in Toulon, on the Mediterranean coast of France, about three weeks ago. The sanitary condition of the city was very bad and the scourge made rapid progress. It soon spread throughout the city and was carried by the flying inhabitants to the surrounding country. In Marseilles, the largest seaport town in France, the disease has gained a secure footing, the death rate being about sixty per day. A cablegram from Paris, dated the 17th, says: "Advices from Marseilles state that the situation there is becoming more grave. The heat is unbearable and there is no wind stirring. The epidemic is spreading and mortality daily increasing."

The Paris Academy of Medicine has decided that a land quarantine is impractical and that the disinfectant process is illusory. Prompt and efficient quarantine can alone prevent the disease from spreading through Europe and across the sea to America, and even this may not be sufficient to stay the progress.

THE ST. LOUIS MEDICAL AND SURGICAL JOURNAL.—Dr. Thos. F. Rumbold has severed his connection with this well known journal in order to attend the meeting of the International Medical Congress, visit the European hospitals, and enjoy a needed rest. He expects to be absent some months. Mr. Frank M. Rumbold assumes charge of the business management of the Journal, and becomes its proprietor. Dr. LeGrand Atwood will be the editor.

Bon voyage to Dr. Rumbold, and success to the old journal under the new dispensation.

The following circular indicates the character of work done by an efficient State Board of Health in advance of a threatened epidemic of Asiatic Cholera.

The great State of Ohio proposes to admit cholera or any other migrating disease that seeks whom it may destroy within its borders.

Free trade in the right to practice the healing art fitly belongs to a State that ignores health organizations and fails to enact quarantine laws. While the good natured people enjoy the situation, the medical profession need not be unhappy.

Copies of this circular have been sent to the Mayors (or presidents of village boards) of 644 cities, villages and towns in the State:

{ ILLINOIS STATE BOARD OF HEALTH,
OFFICE OF THE SECRETARY,
SPRINGFIELD, ILL., July, 1884

DEAR SIR:

At the recent meeting of the Illinois State Board of Health, held in Springfield, July 2d and 3d, 1884, the following resolution was adopted:

Resolved, That while epidemic cholera may be excluded from this country by thoroughly enforced quarantine regulations, yet the best attainable sanitary condition of every locality in the State should be secured, so that in the event of Asiatic cholera effecting an entrance notwithstanding quarantine, the disease may be met and fought under the most favorable circumstances, and the Secretary is, therefore, hereby authorized to take such action as in his judgment will most promptly obtain a thorough sanitary organization of the State, and the adoption and enforcement of the measures necessary to improve its general sanitary condition.

It is entirely possible that we may escape a visitation of Asiatic cholera this year, although there is plenty of time for the disease to reach our shores before cold weather. But even if there were no danger from this source, it should be remembered that everything which is done in the direction of sanitary improvement benefits the general health, reduces the amount of sickness, and lessens the death rate. An obvious duty, therefore, rests at all times, but more urgently at present, upon those charged with the administration of the public health affairs to take such steps as may be necessary to remedy any defects in the existing sanitary status.

To this end a general inspection of the

entire territory under your jurisdiction should be made forthwith, and all nuisances or other conditions injurious to the public health, which may be disclosed by such inspection should be promptly abated. Especial attention should be paid

First.—*To the condition of the water supply.*

Second.—*The disposition of night-soil, garbage and sewage.*

Third.—*The cleansing of streets, alleys, and other public places.*

Fourth.—*The supervision of food-supplies, and of market-places, slaughter-houses and similar establishments.*

Fifth.—*The general sanitation of every house and its surroundings.*

1. Water is one of the commonest mediums through which cholera spreads, but aside from this, typhoid and malarial fevers, diarrhoea, dysentery and other diseases are caused by impure and polluted water. Hence the necessity of protecting the supply from contamination by surface washings and drainage of filthy soil or premises, or of wastes from manufacturing establishments, or by seepage through the ground from privy-vaults, cess-pools, etc.

2. Night-soil, garbage, sewage, and all other forms of decomposing organic matter, are largely prejudicial to health, and their foul odors are indications of danger. The various methods for their proper disposal, so as to render them harmless, are well understood, and should be enforced according to the varying conditions of each locality.

3. Clean streets and alleys, and gutters properly drained and kept free from unsightly and filthy accumulations, are of even greater importance during the heat of the summer than at other times.—The healthy condition of the atmosphere of a locality largely depends upon the condition of its thoroughfares.

4. The rapid decomposition of most articles of food during hot weather—the tainting, souring, wilting or rotting process—and the derangements of the stomach and bowels caused by the use of such food, indicate the necessity for special supervision at this time, of all food-supplies, and the places where they are prepared, stored or disposed of.

5. The foundation of healthy living is obviously the individual home and its surroundings. Houses, cellars, yards and out-buildings should be carefully inspected, and all accumulations of garbage, refuse and filth of every description should be re-

moved, or where this is not practicable, they should be rendered harmless by appropriate treatment. No house or premises can be healthy without proper drainage. If this is not secured by sewers or underground drains, then recourse should be had to surface drains, so as to prevent the possibility of stagnant water under the dwelling or in its vicinity. Cellars should be clean, dry and well ventilated, so that they may not generate foul air to be drawn up through the house.

It is desired that this work of inspection and remedying of evils and defects be begun at the earliest practicable moment, and a preliminary report should be made to this office, covering in a general way the existing sanitary condition, and the measures adopted and enforced for its improvement.

In connection with this report, information concerning your public health provisions is also desired. I have, therefore, to request the names of your health commissioner, health officer, members of the board of health, or kindred officers, and copies of your health laws, ordinances, rules and regulations, etc.

With this information from every part of the State, the Board will be able to secure concert of action, and to direct intelligently and efficiently whatever measures should be found necessary should, unfortunately, any emergency arise, requiring such action.

Forms of health ordinances, adapted to the various organizations of villages, towns and cities in the State, are now being prepared, and copies of the same will be furnished on application.

Confidently anticipating your early attention to this matter, in the interests of your community, I am, Very respectfully,

JOHN H. RAUCH, Sec'y.

DISCOVERY OF A CREMATORIUM.—During the progress of some excavations near Lincoln Cathedral last week, a crematorium, or cremation furnace in a good state of preservation, was unearthed. Near the mouth was a large quantity of charcoal, and underneath a sarcophagus. Within the latter were found ten urns of various shapes and sizes, provided with saucer-shaped covers, and all containing ashes or partly consumed bones. The discovery is one of great interest to antiquaries, and is remarkable from the fact of the crematorium being within the limits of the old Roman city.—*Brit. Med. Journ.*

Abstracts.

OPHTHALMOLOGY, ETC.

[PREPARED BY DR. DAVID DEBECK.]

SYMPATHETIC NEURO-RETINITIS.—ALT, St. Louis, reports (*American Journal of Ophthalmology*, April and May, 1884) a case of this character. The patient had congenital anterior polar cataract, left eye. This was operated upon at eight or ten years of age; an iridectomy upwards was made, and an unsuccessful attempt soon after to remove the cataract.

The patient, now an adult, came with the shrunken and cataractous lens dislocated downwards and outwards into the anterior chamber and there adherent. The eye showed the usual signs of irido-cyclitis, and extremely painful. Right eye, sympathetic irritation.

Left eye enucleated and hardened. Same day right eye painful, and six days after a distinct neuro-retinitis developed. Papilla swollen, outlines indistinct; veins and arteries covered by whitish exudation for some distance from disc; veins full and tortuous; white patches near periphery; striated hemorrhage near one arterial branch.

No constitutional trouble.

Under atropine and the bi-chloride internally this trouble disappeared in four weeks.

The left (enucleated) eye examined microscopically showed iris and ciliary body with pathological changes; choroid normal; the ciliary nerves, examined with especial care showed no pathological changes; there was diffuse atrophic retinitis; and the optic nerve was destroyed by hypertrophy of its connective tissue and atrophy of the nervous elements.

POOLEY, New York, reports (*American Journal of Ophthalmology*, June, '84) another case of this character. Patient had lost, by injury, the left eye many years previous. The eye showed the usual signs of irido-cyclitis, injected, cataractous, painful, with —T.

Right eye outwardly normal but impaired vision (3/8). Ophthalmoscope showed a delicate infiltration of the optic disc and adjacent retina, obscuring the vessels and margin of the disc; with venous hyperæmia. Iris and uveal tract normal and vitreous clear.

The injured eye was enucleated and ex-

amined fresh. It showed the usual inflammatory changes in uveal tract and lens. The retina was detached, and unmistakable evidences of an intense neuro-retinitis were present. Papilla swollen, protruding into the vitreous; disc and adjacent retina covered with a thick exudation, hiding the vessels; the extra-ocular part of the nerve also swollen; sheaths separated; intra-vaginal spaces filled with fluid.

Two weeks later, right eye again normal, and vision 3/8.

THE JEQUIRITY QUESTION—(Continued). *Archives of Ophthalmology*, March, 1884.

SEELY, Cincinnati. Has utilized all dispensary cases and a few private ones in testing this remedy. In no case, so far, has seen anything like *purulent* conjunctivitis excited; simply a swelling of the lids and the formation of a croupous-like membrane. This result justified the view that *purulency* has nothing to do with the relief; and likewise the use of the remedy where the cornea was in a healthy condition. Has witnessed, as a rule, more or less complete disappearance of the pannus and the granulations. Has experimented, aided by his assistant, Dr. Tangemann, who conceived the idea, with an infusion of the ordinary garden pea. Some cases resulted admirably; but the remedy is uncertain owing to its very mild character.

Reports seeming to show conclusively that granulations would disappear under jequirity, attention was directed to determine how little inoculation was required; and how to control its results. Best controlling agents, bichloride of mercury, gr. 1—O1; yellow oxide of mercury in vaseline; eserine; and boracic acid—in a word, the remedies he has long used to check purulency. Some experiences seem to point to the ability to dilute the jequirity infusion with that of the pea, and render its action less intense; but await further experimentation.

Has "had the gratifying experience of seeing, in a shorter time than by any other process, a succulent conjunctiva thinned and permanently whitened, by a single application of the jequirity, as also by the hourly use of the pea infusion continued for several days."

BROWN, Syracuse. Experience with over forty cases. Uses a fresh infusion, made as follows: Sixteen well-pulverized sound

seeds, macerated twenty-four hours in 250 grms. cold water, 250 grms. hot water added, cooled and filtered. Sums up:

1. Jequirity ophthalmia, if effective, is usually painful.
2. Jequirity curative in majority of cases of true trachoma.
3. Jequirity cures scrofulous pannus, even when accompanied by ulcers of the cornea.
4. More efficacious in chronic than in acute cases.
5. Contra-indicated in follicular conjunctivitis and papillary hypertrophy.
6. Contra-indicated in corneal ulceration unless accompanied by pannus and granulations.

HOTZ, Chicago. Treated over one hundred eyes. Uses two, three and five per cent. infusions in water, and one per cent. infusion in carbolic acid. Macerates from fifteen minutes to twenty-four hours, all effective. Applied thoroughly with brush, once; sometimes twice; seldom three brushings needed. Sums up:

1. In fresh trachoma or acute relapses, jequirity aggravated the inflammation.
2. Chronic cases with very succulent conjunctiva and abundant secretion (chronic blennorrhœa) were not benefitted.
3. In chronic cases with pale conjunctiva and scanty secretion a speedy absorption of the granulations (papillary as well as follicular) followed. The conjunctiva became thin and smooth; sometimes, however, a simple conjunctivitis remained.
4. Though the cornea became dull and opaque during the acme of the inflammation, it never suffered any permanent injury, even when abrasions or ulcerations existed.
5. Acute vascular keratitis was not benefitted; pannus accompanying chronic trachoma quickly disappeared with the absorption of the granulations. Most brilliant results were in clearing up those inveterate cases of trachomatous pannus, amenable to no other treatment than inoculation or periotomy. Jequirity is undoubtedly the superior and preferable remedy; safer than inoculation; quicker than the operation.

The Spanish Cyclopedia says that New York has a population of 213,000, and that the houses are well built.

Selections.

MEDICINE.

THE TREATMENT OF HAY FEVER. By Lennox Brown, F.R.C.S., Ed. Published in the *British Medical Journal*.

The short note of Mr. W. F. Phillips on the use of belladonna for the treatment of hay-asthma is valuable, since this remedy has at least the recommendation of being rational. A few further remarks in the same direction may be of interest.

It is being conceded, as well established by Blackley and others, that the exciting cause of the affection is invariably irritative action of a flower pollen on the nasal mucous membrane, possession of a peculiar idiosyncrasy as a strong predisposition, must equally be admitted. It is further highly probable that this idiosyncrasy affects the subject far more locally than generally.

Let us now consider how it is proposed to attack these causes. The most highly recommended local remedies are snuffs and insufflations. It is submitted, however, that they are most illogical for treatment of a membrane already irritated by mechanical atoms, however finely divided. The physiological use of the nostrils being to filter the inhaled air of irritant particles, it has always appeared to me as unscientific to blow powders however sedative, into either nares or larynx in case of disease as to use snuffs in a state of health, the mechanical action of the powders being of itself quite sufficient to contraindicate their employment. The same argument applies with even greater force against plugging the nostrils with cotton wool or wadding. I had long had experience of the use of ointments in cases not dissimilar to those of hay-asthma, in which acute coryza is produced, or a chronic nasal catarrh is aggravated, by the dust of roads or of ball-rooms, or by certain atmospheres, as of east winds and chemical fumes; and, four or five years ago, I first recommended them to patients subject to hay-asthma, the remedy to be commenced some days, or even weeks, before the season of liability. At first, these unguents were prescribed in the form of vaseline with iodoform; but repeated objections to the odor of this last named drug, and the unsatisfactory nature of every vaunted deodorant, led me to advise that the medicated ointment should

be employed only at night, pure vaseline being substituted in the day. Lately, I have come to the conclusion that the vaseline acts principally as a protective of the abnormally sensitive mucous membrane, and that the iodoform is, in very many cases, unnecessary. Consequently, I now seldom add anything beyond the oil of eucalyptus (one drachm to the ounce of vaseline), and, in severe cases, solution of atropine, *B.P.*, in the same proportion. Let it be noted that use of the ointment, as now advised, by application of a camel's hair-brush, well charged therewith, inside the nostrils, followed by a good "sniff, up," is a very different thing from a "smearing over of the upper lip and the margins of the nostrils. The use of strong smelling salts combined with carbolic acid is of service in many cases, and is well known. It may be needful to mention that their action is quite distinctive in theory and effect from that of snuffs.

So much for local protection against an attack, or for local relief. What is to be done to some to eradicate local idiosyncrasy? "Whether this be due to some local abnormality affecting the structure of the mucous membrane, the capillaries, or the periphery of the nerves, of too delicate a nature to admit of detection by available methods of research. Mackenzie says, "cannot be determined. Nor do I think it important, being content to agree with his statement that repeated examination of the interior of the nose in cases of hay-asthma will not reveal "anything more than general congestion." Such a condition is sufficiently pathological, and its treatment is easy and effectual, the indication being to change the character of the secreting membrane. In my own practice, I prefer, as superior to all other alterant procedures, a slight searing with the galvano-cautery at only dull red, or black heat, as at once the most quick and efficient, and also the least painful remedy; but, since this method is not generally available to many practitioners, trial may be made with one of the following remedies, as advised in order of their comparative value by Dr. Lefferts, of New York, for the treatment of hypertrophic chronic rhinitis: fuming nitric acid, glacial acetic acid, and chromic acid. These remedies can be easily applied through an ivory nasal speculum, by means of a small probe, its end wrapped in absorbent cotton, saturated with the acid, the excess being

well pressed out. Contact is maintained for barely a second. After-pain is but slight; a more or less deep slough is produced, with cicatrization, and a less sensitive membrane is the result. Prior to such a radical treatment, a course of inhalations of the neutral vapor of chloride of ammonium, by means of the apparatus of Burroughs or of Kerr, is often efficacious in effecting resolution, and is, moreover, of considerable service in acute attacks. Its effects may be modified or increased by the addition to the water-chamber of various medicaments, as ozonic ether, eucalyptus or pine-oil, alcohol, camphor, chloroform, or aldehyde.

It is hardly necessary to mention that any other local cause of irritation, as a relaxed uvula, enlarged veins or granulations at the back of the pharynx, or hypertrophy or polyp of nasal tissue, should be looked for, and if present should be radically treated.

So large a share of success has followed me in the line I have indicated, that I have not found it necessary to search for any constitutional idiosyncrasy once the local sensibility was destroyed. Probably a gouty diathesis is the one most commonly associated with disposition to hay-fever. A few words only are necessary on my views as to the value of internal remedies for checking or allaying an acute attack.

Above everything I rely on a combination of opium and belladonna, the former of which is recommended by Dr. Mackenzie, the latter by Mr. Phillips. The first named physician, rather to my surprise, reports that he has had no experience of the use of belladonna in this complaint, and Mr. Phillips relies on this drug alone. Belladonna, from its well known action of checking, and even of suppressing, secretions from all glands, of inducing dryness of the Schneiderian membrane, and in the relief it often affords in ordinary asthma, is indicated as the most rational of all remedies for summer catarrh.

Laudanum, also, in small doses (three to six minims), given between meals, has an extraordinary effect in checking the majority of cases of common coryza. Without presuming to offer an opinion as to the correctness of the views of Dr. Harley on the non-antagonism of opium and belladonna, I may say that the index to combine these two drugs in treatment of the complaint under consideration originated in perusal

of his interesting experiments. My own experience points definitely to the conclusion that, while opium and belladonna act antagonistically in relation to prevention of some of the disagreeable physiological effects of each drug administered separately, their combination intensifies and prolongs their respective remedial actions, and on these grounds I confidently recommend their joint employment.

In conclusion, I venture to differ from the dictum that the treatment of hay-fever need by any means be considered as unsatisfactory, provided only it be conducted on scientific, not on empirical grounds.

P. S.—Since correcting the proof of the foregoing short note. I have received from Dr. John O. Roe, of Rochester, New York, two communications to the New York Medical Society, on the Pathology and Radical Cure of Hay-Fever, in which the author brings very considerable evidence in support of the view that in this disease there is to be found either hypertrophy of nasal tissue or some localised spot of sensitiveness in the nostrils. The treatment advised is that of galvanocautery, and the success is remarkable, one case having had an immunity of recurrence for five years, and others for less periods. A similar view is shared by other American specialists, notably by Dr. Daly of Pittsburgh, who has also reported several cases illustrative of the success of local treatment of the nostrils by cautery in patients subject to hay-fever.

THE MODE OF ORIGIN OF GENERAL MILIARY TUBERCULOSIS.—Although it has been for some time recognized that a very large number of cases of general miliary tuberculosis are secondary to primary foci, it cannot be said that we have had, until quite recently at least, any accurate information as to the *modus operandi* of such foci.

Buhl early asserted that the general process originated in absorption from a softening mass of cheesy matter, but how this took place, and why in the majority of instances the cheesy focus fails to give origin to secondary miliary tuberculosis, he did not explain. Ponfick's discovery of tuberculosis of the thoracic duct, and Weigert's of tuberculosis of the veins, brought us a step nearer to the solution of the problem. The latter published, in 1879, three cases of acute general miliary tuberculosis in

which he had discovered a large thrombus-shaped tubercular focus in a pulmonary vein which he regarded as the starting-point of the tuberculosis. In 1882, he reported nine cases of acute general miliary tuberculosis, in seven of which he found tuberculosis of veins, and in two tuberculosis of the thoracic duct. The former appeared as true tubercular infiltrations of the vessel walls, projecting into the interior of the vessel in a thrombus-like, or polypoid manner, smooth, except at a single point of ulceration, and centrally cheesy. Upon these observations Weigert based the assertion that *acute general miliary tuberculosis, in adults at least, depends upon a tubercular focus either in a vein or the thoracic duct*—ascribing the acute tuberculosis to the sudden introduction of a large quantity of tubercular poison, either from a large focus, or numerous small foci, while that form of general miliary tuberculosis in which only a few nodules are found in separate organs, is ascribed to the disintegration of a small vein-tubercle. So, too, the nodules of varying size and limited number found in the spleen, liver, or other organs, along with pulmonary tuberculosis, he ascribed to the introduction of a small amount of tubercular matter into the blood.

Quite recently, Weichselbaum, in the *Wiener med. Wochenschrift*, No. 12, March 22, has apparently supplied the missing link in the proof of this proposition, by the publication of three cases of acute general miliary tuberculosis in which, associated with tuberculosis of the veins, he found tubercle bacilli in the blood of the patients, after death. The first case was that of a young woman of twenty-five, who died of phthisis six days after aborting of a four months foetus. She had suffered with cough, shortness of breath, and fever for some weeks previous. The autopsy revealed tuberculosis of the uterine veins at the insertion of the placenta, both Fallopian tubes distended with cheesy matter, and their mucous membrane injected, thickened, and infiltrated with small nodules. Some of the cheesy and softened tubercular nodules as large as a pea, and containing nests of closely packed bacilli, protruded into the lumen of the veins and with the thrombi found in their interior. Out of twelve slides of blood from a heart-clot—clotted blood was used because of its containing a large proportion of bacilli—four contained the parasite.

The second case was a man of forty-three, in whom a branch of the pulmonary artery in the right upper lobe contained a poly-poid tubercle larger than a bean, ulcerated at one point, cheesy at its centre, and continuous with a large cheesy focus in the same lobe. Preparations from a white thrombus from the left ventricle contained relatively numerous bacilli in groups of from two to six, as did also fresh coagula, and even fluid blood from the femoral vein, although in smaller numbers.

The third case exhibited, besides general miliary tuberculosis, cheesy foci and bronchiectasis, and a cheesy abscess about the tendon of the right supinator longus muscle, and chronic tuberculosis of the seminal vesicles, the left vas deferens, the epididymis and prostate. A cheesy mass surrounded a large vein of the pudendo-vesical plexus, and in one place had perforated the vein. Out of nine preparations made from heart coagula, two contained bacilli.

Weichselbaum believe it a necessary inference from these facts, that in chronic general miliary tuberculosis, that is, the form in which along with pulmonary tuberculosis single nodules of different size and age are found in the liver, spleen, or kidneys, these secondary deposits arise in the same way, even though the bacilli are not found in the blood, since they may easily escape detection when few in number. In support of this view, Weigert has found in two cases of this kind small tubercles in the walls of veins.—*Medical News*.

INUNCTION AS A FEBRIFUGE.—Dr. P. Colrat, in a very interesting paper on modifications of temperature produced by general inunctions, especially in the febrile diseases of children ("Lyon méd.," Jan. 13, 1884), recalls the celebrated experiment of Fourcault, reported to the Academy of Sciences in 1838, in which he proved that the application of an impermeable varnish to the skin of an animal caused a fall of temperature, instead of causing it to rise, as would naturally be anticipated. Schlemann, of Hanover, was the first to apply the discovery to therapeutics, but limited it to the treatment of scarlatina; he believed that it diminished fever, quieted the patient, prevented complications, and diminished the chances of contagion. The treatment was soon generally adopted and although many did not believe that it had

any influence in preventing complications, it was on all sides found to lower the temperature and diminish irritability. The author of this paper has employed inunctions in a large number of cases, and has arrived at the conclusion that they are of use in all febrile diseases, and that their use should not be limited to the eruptive fevers. He finds that the temperature begins to fall immediately after an inunction, and continues to fall for about an hour longer, when it commences to rise again. At the end of two hours it has reached the point where it stood before the inunction. The temperature again falls when a second or third inunction is performed, and may be kept down indefinitely by repeating them. The younger the child, the more marked the effect; the temperature may fall as much as three or four degrees. General inunctions have been so freely practiced that it is quite evident that they are without danger, and one finds it difficult to explain the famous case of the child who was gilded to personate the "golden age" at the inauguration of Leo X, and who died in consequence. Senator proposes to explain this case as due to poisoning from the solution of gold employed in the gilding. The fall of temperature which follows inunction has been explained by Laskiewitsch and Lomikowski as due to increased loss of warmth by radiation. These experimenters proved that, if a limited portion of skin was covered with grease or varnished, a greater amount of heat was radiated from it than from an equal surface of bare skin. They further showed that, if animals were greased or varnished, they soon died from depression of temperature, the blood in the veins being arterial from non-use of the oxygen contained in it, this last being due to arrest of oxidation and tissue metamorphosis by low temperature. They then prepared other animals in the same way, showed that they could be kept alive by covering them with cotton wadding, or by putting them in a very warm room, or resorting to any means which prevented the increased loss of body heat which followed the inunction. According to these experimenters, adults are less affected by inunction than children, because they present less surface in comparison with their weight, and are less profoundly affected by measures which increase their rate of heat radiation. Dogs and fur-clad animals die as a result of inunction, because they are natur-

ally prevented by their coat from losing much heat by radiation; when, therefore, the non-conducting properties of their coat are neutralized by the application of ointments or varnish, the loss of warmth is increased so far beyond the normal that life can not continue. The idea that their death under these circumstances is due to asphyxia from suppression of cutaneous respiration is opposed by the fact the appearances post mortem are not at all those of asphyxia, the blood containing even more oxygen than normal, and even the venous blood being bright red because the cooling tissues did not use the oxygen that was offered them, but allowed it to pass on into the veins, as it does in syncope.—*N. Y. Med. Jour.*

THE ACTION OF INFUSED BEVERAGES ON PEPTIC DIGESTION.—The important subject of the influence of the infused beverages of every-day use on the rapidity and completeness of the digestion of food by the stomach has been considerably advanced by an important paper published by Dr. James W. Fraser in the *Journal of Anatomy and Physiology*, vol. xviii., part i.

From the fact that experiments having for their object the determination of the effect of different beverages on peptic digestion could only be carried out with an artificial digestive fluid, it is evident that the action of the beverages on the vital processes of digestion, such as the secretion of the gastric juice, its amount and quality, and on the muscular movements of the stomach, are, by the nature of the experiment, ignored, although such points must be of the greatest influence on the result. Dr. Fraser's paper is confined to the discussion of the chemical action of a fixed quantity of a beverage on the digestion of a fixed quantity of meat by a fixed quantity of an artificial gastric juice of a definite composition. He finds that all the infused beverages retard the digestion of all meats which were subjected to experiment, with four exceptions.—viz., white of egg and ham in presence of coffee, and fish in presence of cocoatina and of cocoa. Under this general rule some exceptions were noted,—viz., that tea and coffee have much less action on the meats usually eaten at breakfast (egg, salt beef, and ham) than on other meat; that coffee has less action on these meats, as a rule, than tea; that cocoatina has more retarding action than

either coffee, or tea, and the same subdivision into a class of breakfast meats and all others is noticed, but less markedly than with tea and coffee; and that cocoa and chocolate retard the digestion of meats more than any of the former beverages, and no subdivision into two classes of meats is to be noticed in their case.

In his attempt to explain the causes which lead to this retardation of digestion, the author believes that tea reduces peptic action chiefly by its tannic acid, which acts by coagulating the albuminoids which have escaped the action of cooking, by tanning the gelatinous parts of the meat and causing them to contract and press on the albuminoids, by removing the pepsin itself entangled in the precipitates formed, and by precipitating syntonin and peptone as formed.

The action of coffee appears to be in the direction of favoring the digestion of ham and white of egg, and this must depend upon the power of the alkaloid to assist proteolytic action; but coffee, as a rule, retards the digestion of meats, and this must be caused by the caffeo-tannic acid and by the volatile oil.

The action of cocoa appears to be in some respects intermediate between those of coffee and of tea. The action of its acid is slightly greater than that of caffeo-tannic acid, but that of the volatile oil is less than that of the volatile oils of tea and coffee. But then the suspended matters of the cocoas give rise to the causes which produce the most important results in these experiments,—viz., the accumulation of peptones and the clogging action of the suspended solids; and neither of these would act in the case of digestion in the stomach, for the peptones would probably be absorbed as quickly as they are formed, and the clogging would be prevented by the stomach movements.

In retarding the consumption of acid during digestion, tea has the greatest effect; coffee has no more effect than water, and cocoa increases the consumption. Coffee and cocoa cause the peptic digestion of albuminoids to pass on through the stage of peptones to the formation of leucine and tyrosine.

Tea acts on the digestion of fresh meat so as to increase the production of flatus, but has no such effect with salt meat, and coffee has no more effect than water.

The addition of cream and sugar to the

beverages reduces the retarding action of tea on digestion, but increases that of cocoa; and coffee appears to have its action reversed by these additions.

As regards the practical conclusions to be drawn from these experiments, it may be stated that if, at any meal containing albuminoid matters, one of these beverages be drunk instead of water, a reduction in the amount of peptone produced will occur: therefore, as such beverages decrease the nutritive value of foods, a larger amount of food is required to preserve the nutritive balance, and, by the amount of undigested matter which remains in the stomach, dyspepsia is apt to be produced.

The cocoa yields more nourishment than the coffees and teas and it may be believed that, owing to the mixing action of the movement of the stomach, they retard digestion as little as any infused beverage. They are therefore most suitable to cases where economy must be practised in the amount of food taken.

In the case of dyspepsia, besides the action of the beverages in precipitating albuminoids, if of the flatulent order, tea should be avoided when unsalted animal food is eaten, on account of the increase of flatus following their digestion together. In such cases, therefore, coffee would be the best beverage.

In acid dyspepsia, tea, from its power of reducing the consumption of the acid, is the worst beverage; coffee is neutral, and cocoa would be the best from its increasing the consumption of acid; though, if there is any tendency to the lactic acid fermentation, cocoa should be avoided on account of the sugar it contains.

As regards the time of using infused beverages, manifestly they should not be taken at meals which consist largely of animal food. This requirement has come to be very generally followed out, and most people make this undesirable combination only at breakfast; and Dr. Fraser has shown that the usual breakfast meats are those least acted on in digestion by tea or coffee, the latter, under such circumstances, being preferable. — *Medical Times*.

INHALATIONS OF NITROGEN IN PULMONARY DISEASES. — Dr. Sieffermann (*Gaz. Méd. de Strasbourg; Bull. Gén. de Thérap.*) thus describes the effects of these inhalations:

1. With the first inspirations, the patient

declares that he can breathe better, dyspnoea diminishes, and at the same time a feeling of well-being supervenes. The pulse becomes small, often thready, from contraction of the radial artery. So long as the process lasts, enfeebled, anæmic, and nervous patients have vertigo, with a sensation of feebleness and of pressure in the head, sometimes deepening into faintness. These symptoms are observed only at the first two or three sittings; the patients have then become accustomed to them and always bear them perfectly well. The symptoms vary in degree with the amount of nitrogen administered.

2. According to Mermagen, the suppression of night-sweats is a constant result, most commonly following the second or third sitting. Other experimenters are not agreed upon this point, some, like Kholschutter, maintaining that the sweats are increased. But Mermagen is very positive, and affirms that it is only in desperate cases of florid phthisis that the sweating is not controlled. He adds that, if Kholschutter's experience differed from this, it is because he used air containing ninety-six per cent. of nitrogen, a mixture almost poisonous.

3. One of the most surprising effects, according to Mergagen, is the very rapid disappearance of the dulness due to tubercular infiltration of the apex, which occasionally takes place after fifteen days of the treatment. Where an infiltration of the apex has been clearly made out, with dulness on percussion, bronchial respiration, and mucous rales, the vesicular murmur is heard again, with small moist rales and a tympanitic resonance. Kholschutter states also that he has seen dulness disappear when it corresponded to chronic infiltrations of the pulmonary parenchyma or to pleuritic exudates. But in several cases he observed the cough become more frequent, and the temperature rise nearly to 104° F. He asserts, indeed, that the temperature rises regularly after each inhalation, which he considers a bad symptom. Mermagen believes that this rise of temperature coincides with the disappearance of the infiltration from the apex, and therefore that it is due to an absorption fever. The two observers' disagreement as to the explanation is probably to be imputed to the fact that one of them used air containing only from two to seven per cent. of nitrogen, while the other employed air impregnated

with eleven per cent. of the gas at the least, and sometimes even gave pure nitrogen, so that he often produced poisoning like that due to carbonic acid. By dearly-bought experience, Krüll afterward proved that, to get good results, not more than seven nor less than two per cent. of nitrogen should be added to the air; so that there is little room for doubt that the effects observed by Kholshutter are to be attributed to the use of excessive doses.

4. All observers agree as to the soporific effects. Mermagen says that he has seen more than one patient go to sleep while the inhalation was in progress, and that others were able to sleep for eight hours at a time, whereas before their night's rest had been prevented by cough and dyspnoea.

5. The appetite is perceptibly increased, and consequently the nutrition improved.

6. A good effect has been observed upon colliquative diarrhoea, and in patients who were in a desperate stage of the disease.

Irritative cough was certainly ameliorated during the treatment, but the improvement did not continue. The compiler regrets that the breathing capacity was not tested with the spirometer and the pneumotometer, for a comparative table founded on such tests would have furnished the best data as to the results of the treatment.—*N. Y. Medical Journal.*

A CONTRIBUTION TO THE PHYSIOLOGY OF THE PHRENIC NERVES.—Until now the phrenic nerves have been considered solely as the motor nerves of the diaphragm; but a recent communication of Von Anrep and Cybulski (*Plüger's Archiv f. d. ges. Physiologie*, February 4, 1884) shows that the contested question as to the presence of sensory fibres in these nerves must be regarded as settled in the affirmative, since irritation in animals of the central ends of these nerves produces changes in the circulation and respiration, and often evidences of painful sensations.

Influence of the Phrenic Nerves on Respiration.—Irritation of the central end of a divided phrenic nerve in the dog, rabbit, or cat produces changes in the number and depth of the respiratory movements, which differ according to the strength and duration of the irritation. Thus, weak and short irritation (five to ten seconds) produce a slight increase in the rate of respiration, while longer irritations (twenty-five to fifty seconds) at first accelerate and then

retard respiration, while the depth of the individual respiratory movements is augmented. With stronger irritations, increase in strength and rapidity of respiration at first occurs, which gives place to a retardation; or the respiration may again become normal, and then even a further increase in the strength of the irritant is without effect. This proves that the sensory fibres of the phrenic nerves rapidly lose their irritability. In exceptional cases, irritation of these nerves in the neck produces expiratory arrest of respiration. These results are not modified by narcosis or by previous section of the vagi and superior laryngeal nerves.

Influence on the Blood-Pressure.—The first effect of the irritation of the central end of the phrenic nerves is to cause a considerable increase in the blood-pressure, which soon disappears; a second increase again is produced, and the normal pressure again regained, and so on. In other words, a curve is produced which is precisely similar to the so-called "Traube-Hering's curve." This result was not interfered with by section of the cardiac nerves in the neck or by opening the thoracic or abdominal cavities. But it was found that, when the functional activity of the vaso-motor centre was depressed, as by the administration of cadmium salts, or when the spinal cord was divided, these blood-pressure oscillations did not appear. It is, therefore, clear that these modifications of blood-pressure are due to the rhythmic increase in the tonic function of the vaso-motor centre produced by stimulation of the phrenic nerves.

When the phrenic nerves are stimulated, the vagi nerves being intact, in the ascending limb of the pressure-curve, there is an increase in the rate of the heart's pulsation, and a slowing of the pulse in the descending limb, entirely analogous to the phenomena noticed in respiratory changes in the blood-pressure. When the vagi are divided, there is no change in the number of the heart's beats: consequently, there must be a periodic stimulation of the inhibitory centre as well as of the vaso-motor centre.

The points of interest in the above communication are the periodic increase in the tonus of the vaso-motor centre, in animals with normal respiratory gas changes, produced by the stimulation of a single nerve; and the function which is thereby proved to be possessed by the phrenic

nerve in regulating the adjustment of respiratory movement and blood-pressure, possibly through the stimulation of its sensory fibres by the periodic contraction of the diaphragm. — *Medical Times*.

THE ANTAGONISM OF DRUGS.—Dr. Walter G. Smith ("Dublin Jour., of Med. Sci.," Jan., 1884) begins by defining the term and distinguishing between it and antidotism." An antidote is a substance which, by chemical action, can deprive another substance of its properties, rendering it inert, or at least insoluble. An antagonist is a substance which produces effects opposed to those of another substance already absorbed. Antidotes act *chemically*, and neutralize the substance; antagonists act *dynamically*, and oppose the effects of the substance on the system. Example of antidote: Sodium sulphate and acetate of lead = lead sulphate (insoluble). Examples of antagonism: Atropine and morphine, chloral and strychnine. The author calls attention to the most famous views on the subject of antagonism, using the case of atropine and pilocarpine as an illustration, as follows: If atropine is injected into a cat, the salivary secretion is arrested at once; the secretion is restored by the injection of pilocarpine. Rossbach explained this on the hypothesis that the pilocarpine acted by stimulating to excessive action the few gland-cells not paralyzed by the small dose of atropine. A more generally accepted view is that of Langley: that the cells are prevented from acting by the atropine, but act again so soon as pilocarpine enough is given to triumph over the atropine. This view he supports by continuing the experiment indefinitely, giving first a small dose of atropine to check secretion, restoring it then by a small dose of pilocarpine, checking it again with more atropine, restoring it again with more pilocarpine, and so on, many times in an hour, as long as the integrity of the tissues permits experiment. This seems to demonstrate that, when two medicines are given whose effects are directly opposed, the organ affected reacts to the medicine which is given in larger dose, and is affected to a degree corresponding with the excess of the large dose over the small one. To illustrate this, if five grains of one medicine exactly antagonize five grains of another, and if seven grains of the one and five grains of the other are given simultaneously, the effect

will be the same as if two grains of the former had been given alone. If five grains of each are given simultaneously, the effect is the same as if no medicine had been given. In such a case a true antagonism would exist between the two drugs, their actions summing themselves up algebraically like *plus* and *minus*. It must be admitted then that even in the case of such antagonism it is easier to reduce an excessive stimulation down to the normal by a suitable antagonist than to accomplish the converse—i. e., to level up a condition of extreme depression. For example, chloral hydrate is more likely to save life when a fatal dose of strychnine has been given than strychnine is to save life after a fatal dose of chloral hydrate. It must also be admitted that the antagonism of drugs is beset with limitations, the antagonism being sometimes true only for certain doses or remaining true for certain organs longer than for others. For instance, gr. 1-200 of atropine helps the action of gr. 1-6 of morphine, but gr. 1-30 of atropine counteracts the effect of gr. j of morphine. The antagonism between atropine and morphine persists in the pupil long after doses have been reached in which both act as depressants of respiration. A further difficulty in the matter of antagonism is the fact that too large doses may affect the tissues of the body so that the organs may be paralyzed and the antagonism not demonstrated. For instance, if a very large dose of atropine is given the salivary glands may be so thoroughly paralyzed that no quantity of pilocarpine will restore their function. At the same time, enough atropine may be given to counteract three and a half times the fatal dose of physostigma (Fraser). The therapeutic importance of clearing up this matter is simply incalculable, and its significance can not be overestimated. — *New York Medical Journal*.

CEREBRAL PHYSIOLOGY.—The *Lancet*, April 5, 1884, says: "At a meeting of the Royal Society held on March 20th, Messrs. Victor Horsley and Edward Albert Schafer read a preliminary communication on the functions of the marginal convolution. The communication was the first of a series giving the results of an experimental investigation into the physiology of the cerebral cortex and its connection with other portions of the nervous system. The animals employed were monkeys, most of them, if not

all, some species of Macaque. In some the portion of the brain under investigation had been stimulated by the interrupted current and the resulting movements recorded; in others the cortex had been removed over the region in question (by means of the galvanic cautery and under antiseptic precautions), and the resulting pareses of voluntary movement observed. The authors have for the most part throughout their experiments taken care to employ an excitation just sufficient to call forth the activity of the brain immediately under the electrodes. The mesial surface of the hemisphere, or rather only the marginal convolution of that surface, has been explored, for it soon became evident that positive results were not to be expected from electrical excitation of the other parts of the mesial surface. A remarkable relation was found on the whole to hold good between the different parts of this convolution and the parts of the body thrown into movement by their excitation. Thus it was found that when the stimulus was applied anteriorly, the resulting movements affected the upper limbs; when applied near the middle of the excitable part of the convolution, the muscles chiefly affected were those of the trunk; whilst when applied posteriorly, the muscles of the lower limb alone were called into action. It is further thought probable that the movements which are produced by stimulation of points which succeed one another from before back, take place in the following definite order, viz., movements of the forearm, movements of the humerus and scapula, movements of the upper part of the trunk, movements of the lower part of the trunk, movements of the pelvis, of hip, at the knee, at the ankles, and, lastly, at the toes. The authors have further produced complete hemiplegia in monkeys by removing the excitable portions of the frontal and parietal lobes of the external surface, in addition to the excitable portions of the marginal convolution. The paralysis resulting from this operation affected not only the muscles of the limbs, but also those of the head and neck and of the trunk; whereas, in animals in which only the excitable portions of the external surface (the motor regions of Ferrier) have been removed, the paralysis is but partial, and confined chiefly to the muscles of the limb. Mr. Horsley advocated the theory that in ordinary hemiplegia resulting from hemorrhage in or part outside one corpus

striatum, the trunk muscles escaped because the nerve fibres from their part of the cortex (about the marginal convolution) were the last to get damaged by the extravasated blood. He argued that the bursting of the 'artery of hemorrhage' would first place *hors de combat* the facial fibres, then the brachial, next the crural, and, lastly, or not at all, the truncal fibres; the recovery of the function of these parts took place in the inverse fashion. Further, Broadbent's theory of the bilateral association of spinal nuclei was explained by supposing that in a *discharging* lesion affecting only one hemisphere, it was more reasonable to suppose that the energy would spread the shortest way—i.e., to the opposite cortical area."—*Medical and Surgical Reporter*.

PHOSPHORUS IN TUBERCULAR DISEASE.

—I can quite understand the remarkable success that has attended Dr. Greenway's treatment of tubercular meningitis by phosphorus. Phosphorus is a nutrient for exhausted nerve substance, and it certainly seems a powerful absorbent of recent exudations. Phosphorated oil has even been said to promote the absorption of a cataract if it be rubbed over the eyebrow. In meningitis we have an exudation of yellow lymph at the base of the brain, beneath the arachnoid, and in the web of the pia mater. Prior to absorption lymph undergoes a fatty transformation or solution, and this condition is speedily brought about by phosphorus, for the drug is well known to bring about fatty change in organs. Pathological knowledge therefore seems to point to it as a fitting medicine.

I have employed phosphorus as well as the phosphites of potash and soda, and under the influence of these preparations have seen pleuritic thickenings melt away. Old standing consolidations of the lung that had existed for one, two and three months, I have seen at once begin to move and disperse as soon as the hypophosphite of potash was given; and cases that have appeared to myself and others very much like acute tubercle in the lungs have sometimes recovered on the hypophosphites.

I commenced about twenty years ago with phosphorated oil as a medicine, but owing to its nauseous taste I took before long to the use of the hypophosphite salts, which contain phosphorus in a very low state of oxidation; and certainly, in those lung diseases which are of inflammatory ex-

udative origin, and apt to run into phthisis, I know of no remedy to compare with the hypophosphites.

Before the discovery of the tubercle bacillus I had come to the conviction, from observation, that there were cases of lung disease where something seemed most decidedly to stop the way towards recovery by means of drugs given by the stomach. If inflammation be the sole agent that destroys the lung in phthisis, I should regard very few cases as incurable. It is the bacillus that seems to set the phosphorous treatment at defiance, and I notice at Victoria Park Hospital, that just when I find the hypophosphites most helpless, then it is that my clinical assistant finds "lots of bacilli."

A few weeks ago we turned out as cured a case of unmistakable disease of the upper third of one lung, and in that case no bacilli were found.—J. C. Thorowgood, F. R.C.P., in *Brit. Med. Jour.*

PYROLIGNEOUS ACID AS A PARASITICIDE.

—Dr. Cramoisy, a Paris physician, submitted to the judgment of the Academy of Medicine in Paris, in Nov. 1882, a note on the treatment of diseases of the skin produced by vegetable parasites. Dr. C.'s system consisted in the use of pyroligneous acid. The work was submitted by the Academy to the decision of M. Besnier, whose report was read in January of this year. It deserves perusal as containing a clear and instructive statement of the general principles by which ringworm of the scalp can be most successfully treated. M. Besnier shows that there is no one remedy for ringworm, and that we possess at the present no remedy capable of so modifying the tissues as to render them proof against the germination of the microphyte without so altering their vitality as to cause destruction. The difficulty of treatment consists in rendering the soil unfit for the propagation of the parasite without at the same time leading to partial sloughing. The application of simple parasitocides is insufficient. In the depth of the hair follicles the trichophyton tonsurans lives and multiplies, although the surface be covered over with parasiticide applications. Dr. Cramoisy, like many other therapeutists had endeavored to discover an agent which would penetrate the follicle, and he believed that he had discovered one in wood-vinegar, to which he had added red oxide of mercury in the proportion of 1 to 1,000. M. Besnier shows in his report that

any success of the remedy is due to the pyroligneous acid. He states this agent is not inferior to others which cause what he calls an eliminatory irritation, but that it possesses no special virtue as a parasiticide. It has however no special disadvantage, and does no harm; he has never known it to cause extensive dermatitis nor partial baldness. Its disadvantage is the pain and inflammation which it produces. The practical conclusion to be drawn from M. Besnier's report is that in pyroligneous acid we have an agent as valuable as many other parasitocides which produce irritation; and a confirmation of the well established doctrine that the point to be aimed at in the treatment of these parasitic diseases is a sufficient amount of irritation to unfit the skin for the development of the parasite without causing partial necrosis.—*Brit. Med. Jour.*

REMEDY FOR RHUS POISONING.—As this is the season when many persons are making excursions into the country, it is to be expected that there will be many who will suffer from poison contracted by contact with the poison oak. Various remedies have been employed to relieve the suffering thus occasioned; but while one remedy is advantageous to some persons it utterly fails with others. Having learned of a great number of cases in which the fluid extract of serpentaria has been used with remarkable success, I thought it would be well to communicate the fact to your journal, as I have never seen it noticed in medical or pharmaceutical journals. It is best applied by placing cloths moistened with the extract upon the affected parts, without any friction. Two or three applications generally effect a cure.—T. S. Wiegand in *American Journal of Pharmacy*.

SULPHIDE OF CALCIUM TO PREVENT SUPPURATION IN SMALL-POX AND CHICKEN-POX.—Surgeon-Major C. J. Peters, of the British Army in India (*Indian Medical Gazette*), relates a number of cases in which he succeeded in preventing the suppuration of the cutaneous lesions, and therefore the secondary fever, of small-pox, some years ago, by the local use of a mixture of the pentasulphide and the hyposulphite of calcium (commonly called sulphide of calcium) prepared by boiling a quarter of a pound of quicklime and half a pound of sulphur in five imperial pints of water until the liquid was reduced to three pints.

in measurement, when it was filtered and kept in glass-stoppered bottles. If ordinary well or river water is used, a white precipitate is liable to form in three or four days, while the solution loses its color and is no longer efficacious; it should therefore be freshly prepared, in quantities only sufficient for three or four days' use. It is applied to the affected parts two or three times a day, with a feather, taking care that none of it gets into the eyes. As a rule, the pocks thus treated did not suppurate, but withered in the course of three or four days. The author believes that the lotion acts by destroying the germs of the disease, preventing suppuration, and guarding against the complications that result from blood-poisoning. He would now combine its use with the internal employment of the drug.—*N. Y. Med. Journal.*

SALICYLIC ACID IN THE TREATMENT OF LUPUS.—I have for some time employed salicylic acid in the form of ointment, as a remedy for eczema of the scalp and impetigo contagiosa in children, with the most satisfactory results, cases that had defied all other treatment yielding rapidly to its agency, and I have been induced to make a further trial of it in other skin affections.

By the kindness of Mr. Rigby, surgeon to the Doncaster Infirmary, I was permitted to employ it in a very bad case of lupus exedens.

The patient, a woman about twenty-five years old, had her face terribly disfigured, the ulceration having destroyed one ala nasi, the whole of the cheek and eyebrow having been involved. She had been in the hospital before, and had improved under treatment with Donovan's solution and a visit to Harrowgate. But on her return, though she was kept under treatment and observation, fresh tubercles developed, and the parts that had cicatrized soon became again involved, and she was re-admitted to the institution. I first tried an ointment of fifteen grains of the acid to an ounce of vaseline, which was of no use; I then increased the strength to a drachm, and then to one drachm and a half to the ounce.

The ulcers soon began to heal, no fresh tubercles appeared, the cicatrices became soft and lost their shiny, unhealthy appearance, and the skin of the face is now almost sound. She was previously taking a mixture of Donovan's solution and the liquor ferri dialysati. But as this had been without

apparent benefit, I think it fair to give the credit to the external remedy. I have not heard of salicylic acid being employed before in the treatment of this disorder, and its action seems very satisfactory, especially as it does not seem to cause much irritation.—*J. G. Marshall, in Brit. Med. Jour.*

ARE THE ANTERIOR COLUMNS EXCITABLE?—Van Deens first pronounced the view that the anterior columns of the spinal cord are not excitable. Fick proved by his experiments the contrary. But the majority of all investigators was in favor of Van Deens' view. Dr. Mendelssohn has recently tried to solve the disputed question in a different manner from his predecessors. In accordance with the physiology of the posterior columns, the fact is established that motion induced by their irritation is of a reflex character. If, therefore, on irritation of the anterior columns, the motion in the muscles of the extremities produced by it should take place more rapidly, the response to the irritation be quicker, than that ensuing on irritating the posterior columns, we would have the proof that the anterior columns are directly excitable. Mendelssohn's experiments on frogs have really established this important fact. When he irritated the anterior columns of a frog, the motion ensuing in the extremities made its appearance far more quickly than was the case when he irritated the posterior columns. (*Deutsch. Med. Zeit.*)—*Medical and Surgical Reporter.*

DEVELOPMENT OF GRAY SUBSTANCE OF SPINAL CORD.—M. Vignal has studied the development of the gray substance of the spinal cord in mammalia. He has never been able to detect either in this substance or in neighboring tissues, the karyodinetical alterations which nearly all authors who have recently studied cellular reproduction mention as the most constant and perfect evidence of cellular division. M. Vignal therefore concludes that, although these appearances are observed in large numbers in the rows of cells bordering the central canal of the cord the embryonic gray substance is developed according to some other process than karyokinesis. In a communication made to the Societe de Biologie de Paris, M. Vignal commenced by stating that Koelliker and Hensen describe the embryonic gray substance as formed of fine fibrillæ, intercepting each other at right angles, and also

presenting nuclei. M. Renaut believes that it is composed of cells presenting an exoplasm. M. Vignal asserts that the cells constituting this substance consist of very soft protoplasm; from them arise long prolongations destined to form the white substance. These prolongations present the same structure as the protoplasm. He does not agree with M. Boll's statement that these cells represent two varieties, one from which the nerve-cells are evolved, the other the cells of the neuroglia. He believes that in the early stages of development, all the cells are alike; differentiation happens subsequently. With regard to the exoplasm observed by M. Renaut, M. Vignal denies its existence. This may be observed subsequently, when the nerve-cells and the cells of the neuroglia have nearly reached the limit of their evolution.—*Brit. Med. Jour.*

DIFFERENTIAL DIAGNOSIS OF SIMPLE AND TUBERCULAR MENINGITIS.—In an analysis of a number of cases of meningitis occurring in the Children's Hospital at Stockholm, Dr. O. Medin endeavors to formulate the points of difference in the tubercular and simple forms of the disease. Tubercular meningitis attacks only those children already suffering from tuberculosis of other parts, while simple acute meningitis occurs usually in previously healthy individuals. The former manifests its onset by convulsions, frequently strabismus, and contraction or dilation of the pupils. Vomiting is frequent at the commencement, diarrhoea is the usual condition, and constipation is rare. The abdomen is never flat. The simple form begins with somnolence, twitchings, sudden changes of color in the face, and hyperæsthesia. More frequently than in the tubercular form, we meet with the hydrocephalic cry and paralysis limited to the arms or to the face. The tubercular variety is always fatal in its termination.—*Rev. Médicale.—Med. Record.*

SCLEROTINIC ACID IN EPILEPSY.—(*Le Progrès Méd.*)—The preparations of ergot have already been used with more or less success in the treatment of epilepsy, but sclerotic acid was first used by MM. Bourneville and Bricon in 1883. They now administer it either in julep or hypodermatically.

In December, 1882, four epileptic children were treated with the following solution:

R.—Sclerotic acidgrs. viijss to xss.
Distilled water.....fʒijss.
Carbolic acid.....grs. xss.—M.
S. Each injection should contain from gr. 1-25 to gr. 1-12.

For hypodermic use the dose has not been greater than gr. 12. The duration of the treatment was six weeks for one child, which died, six and a half months for two others, and seven months for the fourth.

For internal administration, the acid is given in an aromatic adjuvant (julep), morning and evening. Eight epileptics have been treated in this manner, the dose of sclerotic acid progressively increasing by about gr. $\frac{1}{6}$ every week. The average duration of treatment for these eight patients was three hundred and fourteen days. Of the twelve patients treated by both methods, only five have been improved. These results are not very encouraging, but under the circumstances it may be worth while to experiment still further with this drug.—*Medical News.*

SURGERY.

THE THERMO-CAUTERY IN THE TREATMENT OF ANAL FISTULE.—Dr. E. Farcy recommends the thermocautery in the treatment of fistula in ano, and draws the following conclusions as to its advantages:

1. The operation is rapidly performed, and several fistulous tracts may be operated at the same time.

2. Chloroform is unnecessary, and there is no danger of either primary or secondary hemorrhage, as by other methods.

3. By this method the vitality of the tissues is excited and there is only moderate suppuration. The wound is protected from the direct influence of the air before granulation sets in.

4. There is no fever, no erysipelas, no phlegmons or purulent infection, no relapse, and the cicatrix is linear. It is therefore the best method for operating in these cases.—*Revue de Thérap.—Medical News.*

HYPODERMIC INJECTION OF ANTHELMINTICS.—This method of administering the santonate of sodium has proved entirely successful in the hands of Dr. Dubois (*Allg. Med. Cent. Zeit.*), in an experiment made by him upon a dog, in securing the discharge of an immense quantity of seat worms. Sixteen grains of the drug were so injected, and the proceeding was un-

attended by a single untoward symptom, either general or local. Experiments are yet wanting in the case of human beings; but if similarly successful when tried, this method will be a pleasant advance upon the present mode of administering anthelmintics by the mouth, promising, as it does, to effect a cure, "safely, quickly and pleasantly." Many of the drugs now used are nauseous to the taste, and require to be given either in large or frequently-repeated doses. By the new method the exact dose will soon be determined, and the irritative action of our present treatment upon the intestinal tract will be avoided.—*Medical Press and Circular*.

REMOVAL OF ASTRAGALUS FOR FUNGUS OSTEO ARTHRITIS OF THE ANKLE-JOINT.—M. Robert, at the close of an interesting article draws the following conclusions:

1. Sprain of the foot is frequently followed by chronic bone lesions, which have a tendency to be located in the astragalus, or in the articular surfaces of the astragalus and calcaneum.

2. These lesions may for a long while be limited to the region of the tarsus, yet the simple means directed against the osteo-arthritis are often powerless—modifying injections and ignipuncture being usually inefficacious. Gouging, scraping, and deep cauterization are not certain methods for reaching the seat of the disease, and sometimes cause such an aggravation that amputation is required.

3. Removal of the astragalus is an operation which facilitates exploration of the articular surfaces affected with caries, and which enables the operator to easily remove the diseased parts. When done by Vogt's method it is easy, causes no severe injury, has only a small mortality, gives permanent cures, and at times excellent functional results.

4. As with all other resections, removal of the astragalus should not be performed when the subject is affected with pulmonary tuberculosis, or is very old.—*Archiv Gen. de Med.*

GASTROTOMY FOR HAIR-TUMORS.—A case is reported by Schönborn where gastrotomy was performed on a girl aged fifteen, a hypnotic subject, who had suffered for two years from severe pains in the epigastrium. Towards the right of the abdomen was a moveable tumor which was mistaken

for a floating kidney, and of which the removal was attempted. At the operation the tumor was found to be within the stomach, which was displaced downwards. The weight of the mass removed from the stomach was nine ounces. It consisted of small pieces of hair matted together, the hair being fair in the middle of the mass, but black superficially. The patient recovered perfectly in three weeks, being relieved of all her gastric symptoms, and stated that about four years previously she had taken to the habit of chewing the end of the long plait of her hair keeping up the habit for a twelvemonth. The girl's hair was of a light brown color, and that at the surface of the mass had evidently been stained black by the iron given internally for chlorosis. Schoenborn has collected seven cases from the literature of the subject, all of which ended fatally, either from uncontrollable vomiting or perforative peritonitis.—*Brit. Med. Jour.*

FOR SPRAINS, Prof. Brinton teaches that the limb is to be put into a vessel of very hot water immediately, boiling water being added as it can be borne, and kept immersed for twenty minutes or until the pain ceases. Then put on a pretty tight bandage and order rest. Sometimes the joint can be used in twelve hours. If the trouble is more chronic, apply a silicate of sodium dressing, and let the patient walk with a cane, if the ankle be the joint affected.—*College and Clinical Record*.

THE TREATMENT OF SCROFULOUS BUBOES.—Dr. Lhuillier (*Thèse de Paris; Bull. Gén. de Thérap.*) treats of a variety of inguinal bubo which occurs in scrofulous persons between eighteen and thirty-eight years of age, and appears to result most frequently from excesses in walking or in venery, which cause engorgement of the inguinal glands and favor the localization of scrofulous disease in them, often quite independently of any other scrofulous manifestation. Syphilis also favors the occurrence, and it is then termed syphilostrumous adenitis (*adénite syphilo-strumense*). Strumous adenitis calls for a general anti-scrofulous treatment, such as cod-liver oil, phosphate of lime, wine of cinchona, and especially preparations of iodine in small doses extending over a long period. During the stage of induration, local treatment is apt to prove fruitless, although applications of tincture of iodine may do a

little good; when fluctuation is evident, however, there should be no hesitation, but the abscess must be opened freely, antiseptically, and with Paquelin's cautery if practicable, and an effort made to destroy the wall. If the patient declines to submit to the latter procedure, the cavity may be dressed with tincture of iodine or with iodoform. In the syphilo-strumous form the treatment is the same, but softening may be hastened by the use of mercurial plasters.—*N. Y. Medical Journal*.

NEPHRECTOMY AFTER VAGINAL HYSTERECTOMY.—M. Jules Bœckel of Strasbourg has recently read before the Société de Chirurgie of Paris, some notes on the total removal of a cancerous uterus by the vaginal orifice. The patient was forty years of age. The cancer was in its earliest stage. The vagina was free from malignant growth. M. Bœckel performed the operation of hysterectomy on October 26, 1882. He lowered the uterus by means of Museux's forceps, then incised the posterior cul-de-sac of the vagina, and afterwards dissected out the tissues between the uterus and the bladder. A double ligature was then passed around the broad ligaments, and they were divided without the slightest hemorrhage. The intestines protruded into the vagina, but were easily replaced; removal of a gland caused slight hemorrhage, which was arrested by means of two hemostatic forceps. Sutures were unnecessary, either vaginal or peritoneal, nor was a drainage tube required. The vagina was disinfected with carbolic solution, and plugged with cotton wool and iodoform. The following morning the temperature was 100°. The forceps were removed. The general condition of the patient was satisfactory, but there was an escape of urine into the vagina. A urinary fistula was discovered; it was supposed to result from the pressure of the forceps on the ureter. Nephrectomy was performed, and one kidney was easily removed; it was perfectly healthy. Recovery was rapid. The patient left the hospital six months after the first operation, and remained healthy three months, with the exception of polyuria. Towards the fourth month the abdominal glands became cancerous, and the patient died the seventh month. At the necropsy parenchymatous nephritis was observed in the remaining kidney, and there was cancerous degeneration of the abdominal glands.—*Brit. Med. Jour.*

MISCELLANY.

CHOLERA PRECAUTIONS. INSTRUCTIONS TO UNITED STATES CONSULAR OFFICERS.—Secretary Frelinghuysen on Monday instructed, by cable, the consular officers at London, Liverpool, Marseilles, Havre, Bordeaux, Bremen, and Hamburg at once to appoint competent physicians to inspect all vessels and passengers departing for the United States from those ports. The consular officers are instructed to refuse clean bills of health in all cases except upon the recommendation of the sanitary inspector that such bills be given. The consuls are instructed to report by cable any case of infectious or contagious disease known to exist on board of a vessel at the time of her departure for the United States. This course is adopted in order that the health officers in United States ports may have timely warning of approaching danger, and be prepared to take such measures as shall prevent the scourge from gaining a foothold in this country.

The American Consul at London announces that vessels from Europe must have certified clean bills of health from the American consul at the port from which they sail, or they will not be allowed to enter American ports.

It is probable that under the authority conferred by the contagious disease clause of the Legislative, Executive, and Judicial Appropriation Bill, medical examiners will be appointed as attachés to the American consulates at the French ports infected with cholera, whose duty it will be to report periodically upon the progress of that disease.—*Medical News*.

VIRCHOW ON THE CHOLERA BACILLUS.—At the time of the return to Berlin and public reception of the Cholera Commission, Prof. Virchow made a speech in which he uttered some timely words of warning. He said:

"It appears to me that the Government is not entirely free from the opinion that with the discovery of the bacillus everything is accomplished which may be necessary to control the disease. In this connection I may speak a warning word. It is more than thirty years since we discovered the little organism which causes small-pox, but this has not in the least changed the practical measures previously adopted for its prevention. The tubercle bacillus is a very important

thing, but with the exception of a new view of the disease which is given, we are no further advanced in our practical relations to it."

He then goes on to say that the cholera has for some time been practically treated as though it were caused by a special organism. He also referred to the laxity of the English in the matter of quarantine.—*Med. Record.*

SEWAGE-DISPOSAL IN CANTON.—In Canton a population of a million and a half is densely packed in narrow streets with very few open spaces. Miss Isabella Bird, speaking in her book, *The Golden Chersonese*, of the sanitary arrangements of the city, says that every street of the city is paved with large slabs of granite, and that beneath this pavement is a large drain for carrying off rain-water. These drains open into six intercepting culverts which empty into four branches of the river on which the city stands. The local authority of each street is bound by law to cleanse the entire drain of the street, and it is the duty of the grand prefects to cleanse the intercepting culverts every autumn; neither of these authorities, however, discharges his duties in a very satisfactory way, yet Canton, in spite of its dirty drains and overcrowded areas, is on the whole a very healthy city, and serious epidemics are said to be very rare. This result may be attributed, according to Miss Bird, "to the excellent plan of sending out the garbage of the city daily to fertilize the gardens and fields of the neighborhood." This testimony in favor of disposing of the sewage by the dry method, coming as it does from an independent observer, who observed it in a town where the weather is very warm in summer, and where almost every other sanitary principle is violated, appears, at the present moment, to be worthy of serious attention.—*Brit. Med. Jour.*

DISPOSAL OF REFUSE IN CITIES.—About three years ago the town of Glasgow erected special works for the speedy dispatch of all the refuse collected all over the city. The refuse is made to undergo a process of separation, by which it is made more valuable to the farmers; and also of considerable profit to the town; for by a process of burning chemicals are extracted and sold at a high price. The results have been so satisfactory that the authorities have decided to extend the system; and on June 13 addition-

al works, covering an acre, were formally opened. The importance of these refuse despatch works, as well as their necessity, is brought out when it is remembered that in Glasgow are 168 miles of streets to clean and water, and from these seven hundred tons of stuff are gathered daily. To be able rapidly and profitably to dispose of so large an amount of waste material, speaks well for the system which Glasgow has adopted, and which as yet does not seem to have been taken up by any other cities.—*British Med. Jour.*

DR. WYTHER, in the *Pacific Medical and Surgical Journal*, March, 1884, says: "The sanitary condition of the great cities of the world to-day is vastly better than of those of the Middle Ages, although very far from what common prudence deems desirable. It is still true that people live longer in rural districts than in cities, yet ever since civilization began to inquire into and regulate public hygiene there has been steady improvement. Statistics may not yet be fully reliable, yet the best we have prove that life has been prolonged by civilization. According to Wagner, 'In the twentieth year of life the probable survival was in the sixteenth century twenty-two years; in this century forty years.' Among children the death-rate depends upon the social position or high civilization of the parents. In England, according to the tables of Mr. Ansell, of 100,000 children born alive 74,000 will live at the end of their fifth year; but among the upper classes, who can afford the appliances of modern life, there will be 87,000, and among the peerage there will be 90,000.—*Boston Med. and Surg. Journal.*

HINTS FOR HOT WEATHER.—Don't shake the hornets' nest to see if any of the family are at home.

Don't go too near a draft. If a draft comes toward you, run away. Sight drafts are the most dangerous.

Don't blow in the gun your grandfather carried in the war of 1812. It is more dangerous now than it was then.

Don't hold a wasp by the other end while you thaw it out in front of the stove to see if it is alive. It is generally alive.

Don't try to persuade a bulldog to give up a yard of which he is in possession. Possession to a bull dog is ten points of the law.—*Allentown Critic.*

Original Articles.

IMBECILITY.

A Paper read before the Lebanon Medical Society, May 27, 1884.

By S. R. VOORHEES, M.D., Mason, Ohio.

Before entering upon the argument of the cause of imbecility I want to state two propositions that occur to me from the last twenty or twenty-five years of observation.

First. An exhausted mental or physical organization can not impart or transmit any great amount of vital action or energy to its offspring.

Second. After birth there are no new or original mental or physical qualifications or faculties added to those which already exist at birth.

Now, assuming these premises to be true, we will inquire if there is any proof to support these propositions.

Take first the mental capacity and intellectual development of the rising generation. We see many children of seemingly very intelligent parents who are greatly deficient in mental capacity. It is a fact in the history of our country that our best and most influential statesmen come from parents who occupy the more common walks of life, and that the children of those who work their mental faculties to their utmost capacity never develop above the mediocrity of their associates and many of them are imbeciles in mental structure.

The cause is plainly visible according to the first proposition. The statesman, instructor or minister exhausts his mental energy in his profession, so that when he begets offspring it is deficient in that of which he is exhausted. Some minds are so strong and fruitful of thought that it is almost impossible to exhaust them, but this is an exception rather than a general rule.

We see children of the same parents that have different inclinations of mind and different degrees of mental and physical attainments.

There must be some cause for this, as every cause is followed by its effect.

Parents, in the course of life, have their minds directed in different channels of thought, and if a child is begotten when their minds are directed in a certain direction or absorbed in some particular subject, and have not pursued that subject so as to exhaust the mind, it is very likely that the

child's mind will be inclined to that same subject and will likely make that subject its occupation in life.

There must be some controlling principle that gives cast to the mind of the child, for the formation of the mental or physical system is not an *accidental* property in life.

The physical system is controlled by the same law. Where the body is reduced by exhaustion and hard work the child conceived at that time will be deficient in muscular energy. Stock raisers take advantage of this principle, and, in breeding, do not put the horse to hard labor, but only enough to produce healthy exercise and assimilation.

Having resided in this community for over fifty years and my attention being directed to this subject early in life, I have made careful observations on the subject.

In this vicinity it is almost an absolute fact that children seldom follow the occupation of their parents.

As men have faculties for different occupations in life and only one developed, which they follow, *that* faculty may be so exhausted that his offspring may not have it to any great degree.

We see men who follow some intellectual pursuit in life have children well developed in physical ability, but very weak in mental structure. Some of our best athletes are children of men and women who follow some intellectual pursuit in life, but these children do not generally possess a high degree of mental development.

Some farmers in this community boast of the great amount of work they did in their younger days, working part of the night in clearing their farms and all winter in threshing their grain or preparing their flax for the weaver, have sons and daughters greatly deficient in muscular development but have well developed minds and some are occupying prominent positions in the affairs of the nation.

We, as physicians, know that if the longings of the mother are not satisfied it has an influence on the child when it grows up, and *that* longing may produce monomania on that subject.

I have inquired of parents if they knew of any cause why a certain child possessed such a peculiar turn of mind, and they often answer that they were constantly thinking on that subject before the child was born.

We see another principle developed in

society, that where the parents live unhappily together the children are most always quarrelsome and seldom remain at home until they arrive at maturity.

There is a family in this community where the parents do not always speak pleasantly to each other and the children will go for weeks and even months without speaking to each other. Another family, where the wife became offended at something during the first months of gestation, and determined not to speak to any one until the child was born. That child is now eighteen years old, a *mute*, but very intelligent.

Again, we have another family of twelve or fifteen children, who seldom or ever pass an unkind word to each other. The father says the reason is that he has such an amiable and lovely wife that he can not think of giving her an unkind word or an unpleasant look. This may also account for the number of children they have.

The children of drunken parents, those who openly drink and confess they are drinkers, generally go to the other extreme and are among the best temperance workers in the community.

It also seems a fact that those persons who carry any business or profession to an extreme their children generally go to the other extreme. The children of the miser are usually spendthrifts. The children of the clergy do not possess that high degree of religious culture that the parents do.

It is a well known fact among instructors that some children possess no inclination for certain studies and that it cannot be taught to them, while other branches are learned with great facility. Take, for illustration, a person who has no taste or faculty for music. That person can never make an accomplished singer. It is said that Hon. Jas. G. Blaine could never learn mathematics successfully, but has a remarkable memory for literature and history. Horatio N. Robinson, the great mathematician, could not compose his ideas of mathematics into an intelligible sentence but employed some one else to do it.

It seems then that the second proposition holds true.

It is a fact in history that fifteen of our twenty-one Presidents were farmers or the sons of farmers. A well known educator informed me a few days since that a ma-

jority of the teachers of our common schools were from the country and were the sons and daughters of mechanics and farmers, showing that the minds of mechanics and farmers are not so severely tasked and impart a higher degree of vitality and mental endurance to their children than professional men.

PNEUMOTHORAX.

A paper read before the Vanderburg County Medical Society, July 18, 1884.

By A. M. HAYDEN, M.D., Evansville, Ind.

While strictly speaking there is no such thing as a pleural *cavity*, that name has appropriately been given to the interior of the closed sac formed by the pleura, whose walls, however, in their normal condition are completely collapsed and glide freely over each other with the motions of the viscera, and containing nothing within its interior except serous fluid enough to secure thorough lubrication.

That abnormal substances, either solid, liquid or gaseous, may appear in this sac, and distending it, encroach upon the delicate spongy substance of the lung, needs neither a philosophical nor a pathological demonstration.

These substances may be a perversion of the natural pleural secretion giving rise to pneumothorax, hydrothorax or pyothorax, or a combination of these, or they may appear from without through openings accidentally made.

As the case in question is peculiar only by virtue of the pneumothorax, I shall confine my remarks to that form of pleural trouble.

Notwithstanding that certain authorities contend that under peculiar circumstances the pleura may secrete a gas which would distend the pleural sac, I think there may be no hesitation in saying that when there is gaseous distension of the pleural sac, that there must of necessity be a communication between it and the external atmosphere. It is true that gas might arise from the decomposition of pus within the cavity, but it is extremely doubtful whether pus can undergo decomposition unless subject to atmospheric action.

Hence we may conclude that the pathological condition expressed by pneumothorax supposes a communication between the atmosphere and the pleural cavity. Granting that such an opening exists, as it actu-

ally did in this instance, we may here stop to consider why the air should distend the pleural sac instead of the lung through the natural channels.

Normal expiration is a passive action, the elasticity of the lung tissue and costal cartilages forcing the air out of the lungs. Nevertheless there are powerful accessory forces which may be brought to bear to cause forcible expiration.

In inspiration, on the other hand, there is active muscular action. The diaphragm by its contraction and descent tends to form a vacuum in the pleural sac, which the atmospheric pressure hastens to restore by filling and expanding the air cells of the lung, an action in forcible respiration closely imitated by the working of a rubber ball-syringe, the muscles of the hand expelling the contents, the elasticity of the ball refilling it. From the same analogy we might glean the fact that the expulsive force is greater than the inspiratory, were it not already proven by actual experiment that the extreme expiratory force is greater by a third than the extreme inspiratory force. The act of coughing brings into requisition the extreme expiratory force, almost completely emptying the lungs. Now, should there be a disintegrated tuberculous deposit, a pneumonic ulcer, or a broken down apoplectic clot, the violent reactionary effort of the atmospheric pressure to restore the partial vacuum in the pleural sac, might cause an opening to be made through which air could enter.

This opening being temporarily closed by plastic lymph the air could not escape, and as each spell of violent cough might reopen the communication and add to the air already present in the sac, until the lung would be completely collapsed, and such distention produced as to press the other viscera out of position.

The simple presence of air in the pleural sac might and might not cause trouble. The experiments of Tyson and Hewson have shown that pure air injected into a healthy pleural cavity does not cause bad results. In pathological conditions, however, the entrance of air would almost necessarily be accompanied by pus, blood, or other foreign substances, so causing inflammation, therefore pneumothorax unaccompanied by pyothorax or hydrothorax seldom, if ever, occurs.

Experience has shown that perforation in these cases occurs most often near the apex

or at the fissures between the lobes. In the instance before us it was almost impossible to determine, as the lung was almost completely destroyed.

For the relief of these and similar accumulations in the pleural cavity we are indebted to the brilliant advocacy of paracentesis by Wasseau, and the possibility of its performance with a minimum disturbance of the system to Dieulafoy. Whether permanent relief can be afforded or not, depends on the cause of the trouble, as it is but the result of some previous condition. In the case before us the perforation was caused by broken down tuberculous deposit, and hence a fatal termination was easily prognosticated, and as the therapeutical management of the case was simply palliative, no attention need be paid to it. The case is as follows:

G. C., age 48, colored, driver of a coal wagon. I first saw him last February. He showed signs of acute capillary bronchitis, with slight emphysema of left lung. He improved under treatment, and I did not see him again until April 20, when I was again called. Found the pulse and respiration rapid, and the temperature high. The left side of the thorax was distended like a drum; coughing spells severe; respiratory sounds almost none over left lung; left side markedly tympanitic. This condition continued the same until May 1, when the chest was aspirated and a large quantity of fetid gas withdrawn, but no pus. Decubitus almost constantly on the right side. On May 7, and several times afterwards, he expectorated large quantities of pus, from a pint to a pint and a half at a time, which gave temporary relief. Other symptoms led to the belief that he was tuberculous. He died May 20.

Autopsy. The left pleural cavity was distended with gas which escaped with considerable force. The left lung was almost completely destroyed and gangrenous. The left pleural cavity contained about a pint of pus. A large cavity in the remnant of the lung contained a pint and a half of pus. The right lung was somewhat hepatized in the lower lobe, and contained tuberculous deposit mostly in the lower lobe. An opening existed between the lung and the pleural cavity.

The heart was mostly to the right of the median line, but otherwise normal.

Paracentesis was performed low down, with the expectation of finding some pus,

though there were no physical signs indicating its presence, but with negative results, though from the fetor of the gas there was likely some present undergoing decomposition.

In aspirating the question arose whether it would be best to simply let the gas escape through the needle, or to use suction. The latter was used with the result already mentioned.

The question of making a free incision in an intercostal space, and using medicated injections was discussed, but considering the case as hopeless on account of his tuberculous condition, and considering such radical proceeding as useless in the case, it was abandoned.

ADAMS COUNTY MINERAL SPRINGS.

By J. W. HIGGINS, Bentonville, Adams County, Ohio.

As the season of the year is now upon us when those worn with the cares of business or by the depressing influence of disease seek respite, it might be in order to give a sketch of this resort and of the waters it affords.

These springs are situated in the eastern part of Adams county, Ohio, and issue from the base of the mountains, from the top of which beautiful views present themselves, reaching over hills and valleys as far as the eye can reach, forming a beautiful and picturesque scene.

They were discovered in 1840 by a party of hunters, one of the number suffering from some kidney or urinary trouble, and after drinking freely of the water, found himself benefitted, and continuing to use the water, was completely cured. Since that time the springs have enjoyed a local repute, and have received more or less patronage, which has mainly come from the adjoining counties.

In an adjoining neighborhood there remain many evidences of where that prehistoric people, the so-called Mound Builders, teemed with a busy population. Their conquerors, whoever they may have been, seem not to have occupied or improved the country they had wrested from its occupants, but left it to relapse into wilderness again. Centuries have since evidently rolled their courses over this Elysian field, which long ago has been covered with dense forests, while not a trace or

vestige of their habitations remain. All have disappeared before the great destroyer, Time. Many of the burial grounds of the sleeping dead have been converted into fields, where acres are to-day literally covered with fragments of human bone that lie bleaching upon the surface and fertilize the soil, and cause it to bring forth larger crops to fill the coffers of the living.

Just why it is that this quiet, healthful resort has not had a wider reputation I am unable to say. Besides the cool nights, fine mountain scenery and good accommodations, the waters of the place certainly have not received the attention they really deserve. It will be seen by the analysis by Prof. E. S. Wayne that they belong to the alkaline or ferruginous group, and are highly charged with gas (probably carbonic acid and sulphurated hydrogen), and contain to each gallon 210.35 grains. The solids are composed of chloride of magnesium, sulphate of lime, carbonate of lime, chloride of calcium, chloride of sodium, oxide of iron, and a trace of iodine.

They have verified the chapters in the text books as to the therapy of the alkaline and ferruginous mineral waters. Those who receive most benefit from the use of these waters are those who suffer from chronic gastro-intestinal catarrh, catarrh of the bile ducts and icterus, congestion of the portal circulation and chololithiasis. In the earlier stages of diabetes the use of the water has accomplished much, particularly in the obese, and by removing congestions and engorgements of the pelvic organs, have done much toward the cure of many uterine troubles and of hemorrhoids. By neutralizing the acidity of the urine, they lessen its irritating effects, and much success has been known in the treatment of catarrhal troubles of the urinary passages and in calculi. Probably most successful in the uric acid variety.

Aside from the medicinal effect of these waters, there is much here that has a good psychical effect. The absence of mosquitoes and almost so of the common house-fly, the magnificent scenery, the music of the birds, from dawn of day echoing from hill to hill, and the thrilling notes of the whippoorwill at the twilight of eve, keep before the visitor a picture that none but nature can present, and one that will produce a feeling of buoyancy in any lover of nature.

For those who desire exercise; the climbing of hills of from 600 to 800 feet high,

hunting, swinging, croquet, ten-pins, etc., etc., afford ample means. These, conjoined with the pure air, have a tendency to inspire new life.

To this there is supplemented a good hotel, where the good victuals that are put upon the table are relished by the recreating sojourners. Here invalids are carefully provided for, and those seeking repose in a quiet spot can have their desires satisfied.

To those who desire to visit this resort, or send patients thereto, I would say that there are daily accommodations by means of hack from Mineral Springs on the C. & E. Ry., to the Springs. From the river they are reached by hack line from Rome, which is twenty miles, the nearest point on the river.

Society Reports.

MICHIGAN STATE BOARD OF HEALTH.

[Reported for LANCET & CLINIC.]

The regular quarterly meeting of the Michigan State Board of Health was held in the office of the Board at Lansing, Mich., July 8, 1884, the following members being present: John Avery, M.D., of Greenville. President; C. V. Tyler, M.D., of Bay City; Henry F. Lyster, M.D., of Detroit; J. H. Kellogg, M.D., of Battle Creek; Victor E. Vaughan, M.D., of Ann Arbor; Arthur Hazelwood, M.D., of Grand Rapids, and Henry B. Baker, M.D., Secretary.

The committee on examination of textbooks on physiology and hygiene, with special reference to alcohol and other narcotics, reported, after which the following resolution was adopted.

Resolved, While we cannot recommend without qualification any of the books presented to this Board for examination, with the exception of those already acted upon, on account of numerous and important errors and omissions, the following works seem to us to be quite admissible for use in the schools, although we consider it important that the errors referred to should be eliminated as speedily as possible, and that without the corrections referred to, none of the works named could receive the entire approval of this Board.

2. Physiology and Hygiene. By J. C. Hutchinson, M.D., LL.D. New York:

Clark & Maynard, publishers. Edition of 1884, with Supplement on Stimulants and Narcotics.

2. The Laws of Health: Physiology, Hygiene, Stimulants, Narcotics. By J. C. Hutchinson, M.D., LL.D. New York: Clark & Maynard, publishers.

3. Hygienic Physiology, with special reference to the use of Alcoholic Drinks and Narcotics. By J. D. Steele, Ph.D. A. S. Barnes & Co., publishers, New York and Chicago.

4. Lessons on the Human Body. An elementary treatise on Physiology, Hygiene and the effects of Stimulants and Narcotics on the Human System. By Orestes M. Brands. Leach, Shewell and Sanborn, publishers, Boston and New York.

5. First Lessons in Physiology and Hygiene, with special reference to Alcohol, Tobacco and other Narcotics. By Chas. K. Mills, A.M., M.D. Philadelphia: Eldridge & Bros., publishers, 1884.

6. Elements of Physiology and Hygiene. By R. T. Brown, M.D. Van Antwerp, Bragg & Co., Cincinnati and New York.

7. The Eclectic Physiology, for use in Schools. By Eli F. Brown, M.D. Van Antwerp, Bragg & Co., publishers, Cincinnati and New York.

The Secretary presented a report of four outbreaks of cheese poisoning in Michigan during May and June, namely at Middleville, Barry Co.; Jerome and Jonesville, Hillsdale Co., and Big Rapids, Mecosta Co. All persons who ate of the cheeses were taken sick (in all about one hundred and sixty-four persons), with the same symptoms, *i.e.*, pain and burning sensation in stomach, intense vomiting and purging, cold extremities and tendency to collapse. All finally recovered. The cheeses were ordinarily good looking samples, but when cut or broken a liquid oozed into the pores. In each case the cheese was made at the factory of G. B. Horton, Fruit Ridge, Lenawee Co., Mich.

Dr. V. C. Vaughan, Committee on Foods, also read a report on cheese poisoning. At the request of the Secretary, he had visited the factory in Fruit Ridge, and had analyzed specimens of the cheese. Everything about the factory appeared scrupulously clean, and nothing in vats, cans or surroundings offered any explanation of the cause of the poisoning. An analysis showed no arsenic, copper, lead, iron or other mineral poison. When the

cheese was cut or broken, a whitish liquid oozed into the pores, and in this liquid microscopic organisms were discovered. The liquid was very strongly acid.

For more than one hundred years the attention of the scientific world has been drawn to the subject of cheese poisoning by repeated outbreaks of this sort in this country and in Europe. Much has been written on the subject, and many investigations carried on, especially in Germany. It has been variously ascribed to diseased milk, to the development of certain fatty acids, to decomposition, etc., but we do not yet know what makes the cheese poison.

The manufacturer said the cheese which produced the ill results was all made between April 26th and May 26th, 1884. It was made in the same manner and with the same care as other lots which had given no cause for complaint.

Good cheese is only slightly acid, and slowly reddens blue litmus paper. The poisonous cheese was intensely acid, instantaneously reddening blue litmus when the paper was applied to the freshly cut surface. This test for poisonous cheese appears to be practicable. The blue litmus paper could be applied by every grocer to each freshly cut cheese. If the litmus paper is instantly turned red by the liquid which oozes into the pores, the cheese is to be suspected as poisonous.

Dr. Vaughan's report will be published in the next annual report of the Board.

The Secretary reported that smallpox was brought into Rose Lake township, Osceola county, Mich., June 9, 1884, by a German immigrant, who, with wife and three children, landed in New York, June 4th, by steamer "Weser," "Weiser" or "Wieser." The immigrant says that on the passage over there were three deaths on that vessel from smallpox, and several cases that recovered. The immigrant was taken sick June 13, and was attended by Dr. Bettes, of LeRoy village, in the adjoining township of LeRoy, who could not know the true nature of the disease till the eruption took place, soon after which Dr. Bettes himself came down with the disease, and has since died. The health authorities of LeRoy village had neglected to appoint a health officer as the law requires, because they thought they would "save a health officer's salary by doing without one." Dr. W. J. Law was then

appointed health officer, and he seems to have done very efficient work, as did also Mr. Bryan Monaghan, health officer of Roselake township. The townships of Rose Lake and LeRoy united in the construction of two hospitals, which were built June 29. At last reports there were ten cases in the hospitals, five cases at Tustin, and one at Cadillac.

This outbreak is another illustration of how Michigan and the Northwest suffer for want of a careful immigrant inspection service, such as was planned by the National Board of Health, and for a time carried on, but discontinued for want of an appropriation.

The chairmen of the special committees appointed to examine the sanitary condition of the Washtenau and Jackson county jails, read their reports, which were ordered printed in the annual report of the Board for 1884.

Owing to the spread of Asiatic cholera into Europe, and the liability of its introduction into this country at any time, it was decided to issue a circular to the local boards of health on the prevention and restriction of cholera.

The third edition of 30,000 copies of the document on the restriction and prevention of diphtheria being nearly exhausted, it was decided to revise it and issue a fourth edition of not to exceed 20,000 copies, for general gratuitous distribution in Michigan.

The work of the office in compiling, reports of sickness, meteorology and of proof reading, correspondence, etc., has continued as heretofore.

A compilation of public health laws of Michigan has been printed and is nearly ready for distribution.

The document on the prevention and restriction of scarlet fever has been revised and 20,000 copies printed for gratuitous distribution.

Proof on most of the Annual Report has been read, and it is now printed up to page 223.

A second demand for return of names and addresses of health officers have been made on delinquent cities, townships and villages. Addresses of about 1,050 health officers have been received and recorded. As fast as addresses of health officers for 1884 are received, there are sent to each such officer enough copies of the revised circular on the duties of health officers and

local boards to supply each member of the board with a copy.

Documents on the restriction and prevention of contagious diseases are sent with this circular, and a blank for notification of this office of an outbreak of a dangerous, communicable disease.

During the quarter about 120 letters and 8,000 documents have been sent to local health officers where contagious diseases have been reported present, the documents being for general distribution among the neighbors, who are, it is believed, more likely to read them carefully at such times.

The next regular meeting of this Board will occur Oct. 7, 1884, instead of the second Tuesday in October, which would be its regular time.

PHILADELPHIA PATHOLOGICAL SOCIETY.

Meeting of June 26, 1884.

The President, DR. TYSON, in the Chair.
Microscopic Slides from a Case of Spindle-Celled Sarcoma of the Breast. Presented by DR. G. SCHWEINITZ.

I desire to exhibit a few sections this evening cut from a tumor of the breast removed by Dr. John Ashhurst in the University Hospital. The history of the case in brief is as follows: Annie S., married, aged thirty-five, the mother of four children; family history good; her own health good until two years ago, when she began to suffer from malaria. The tumor of the breast first began to be manifest one year ago and grew gradually without much pain until the date of operation when it had attained the size of an orange. There was no enlargement of the axillary glands; the nipple was not retracted; the growth, to the touch, was hard in spots; the skin had become adherent giving rise to the pitted, somewhat brawny or lardaceous appearance, which is described by some surgical writers as rather indicative of scirrhus of the breast. This appearance was sufficiently marked to cause the diagnosis of hard carcinoma to be suggested as probably correct. After removal, when the mass was laid open, both cut surfaces did not appear concave as is usually the case in a scirrhus.

Microscopic examination cleared up the diagnosis, for, as you will see by examining the specimens, they show the typical ap-

pearances of a small spindle-celled sarcoma. It seemed a good case to illustrate the difficulties sometimes encountered in correctly diagnosing tumors of the breast, and, for this reason, I have briefly placed it upon record.

Specimens from a Case of Resection of the Humerus. Presented by DR. NANCREDE.

Mary D., aged seventeen years, from whom these specimens were removed, received a severe compound comminuted fracture of the left humerus, by having her arm wound around the main shaft of a spinning mill's machinery, on January 2d, 1884. She also, at the same time, received several severe scalp wounds. Irrigation with bichloride of mercury solution resulted in the salvation of the arm, although in the effort the girl nearly lost her life. At the end of six weeks, no union having taken place, the ends of the fragments being neurotic, I cut down, removed the small fragments here presented, and, after sawing off the ends of the main fragments, drilled and fastened them together with two strong silver wires. The whole extremity was then put up in a fixed apparatus—plaster—which was not disturbed until irritation of the skin from pressure, etc., required it.

Now, at the expiration of about five months, the fragments seem firmly consolidated and the line of the bone apparently perfect.

TREATMENT OF COLD IN THE HEAD BY COLD ABLUTIONS OF THE FEET.—In the *Russkaia Medits*, No. 10, 1884, p. 234, Dr. Prokop Popoff, of Minusinsk, Siberia, states that in more than 300 cases of acute and chronic rheumatic coryza he used with great success the following simple plan of treatment. Twice daily (in the morning on rising, and at night on going to bed) for two days the patients are ordered to wash their legs from the sole up to the knee with ice-cold water, and to subsequently rub the washed parts with a dry towel, or a piece of rough linen or cloth, until a vivid redness and feeling of warmth appears. The whole procedure takes not more than five minutes. No other measures or precautions are required. A striking improvement is usually so great, that many patients content themselves only with one day's treatment, regarding themselves as cured.—*London Medical Record.*

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Cincinnati, July 26, 1884.

The Week.

DR. CASSAT'S smiling countenance is among us again after an absence of two months. He has taken in the entire Pacific Slope, from Lower California to Victoria.

It is generally supposed that to raise the standard of medical education, by requiring a preliminary examination of students before they can enter college, will have a tendency to diminish their number, but, if we can judge from the effect these requirements had in Europe, we will have an increase in the number of medical aspirants. At Marburg, Greifswald and Jena the number of students has increased in an astonishing manner over any of the previous years.

THE PRACTICE OF MEDICINE IN FRANCE. The commission appointed to regulate the practice of medicine in France reported to Congress, stating that hereafter no individual would be permitted to practice who could not produce a diploma of doctor of medicine granted by one of the Universities of France. Concerning the admission of foreigners their course is not entirely

settled. It will depend on the requirements made by other governments of French applicants.

THE CHOLERA. — The cholera is slowly but surely advancing in the South of Europe. In addition to Toulon and Marseilles, cases have been reported in Arles, Madrid and Paris. July 21st, eight cases were reported in Paris, two of which were fatal, and on the same day the Director of Public Aid declared that no case of genuine Asiatic cholera had been reported at the Paris hospitals.

In the United States, as is usually the case before an epidemic of Asiatic cholera, sporadic cholera is frequent, and of a virulent type.

ANTISEPTICS.—It may safely be assumed that all physicians employ so-called antiseptics in some form to a greater extent than a decade ago. The practice has become almost general, and, while there are a great many differences of opinion on minor points, the principle undoubtedly is the same. The theory on which antiseptics are used is not new, yet it is opposed by many quite prominent individuals as though it were a new idea only just born; they have accustomed themselves to antagonize everything that does not appear plausible or cannot be grasped by their fertile minds at the first effort. Lister's idea and reasoning that not the air but something in the air coming in contact with the wound causes decomposition, or, as we had better say, suppuration, has been the only solution to the problem and it is recognized as such.

If the theory that every suppuration is dependent or is caused by a germ is accepted, then certainly an agent having the power to destroy the germ is called an antiseptic, and the principle of its application coincides with the cause of the trouble; but with those who do not accept the theory, what use have they for antiseptics?

Cleanliness can be brought about by the use of tepid water, without the addition of so much carbolic acid to the given quantity of water. It is not our intention to discuss the special properties of certain drugs as antiseptics, first we must settle the theory of suppuration. Is the production of pus merely an excessive migration of the white blood corpuscles into the wound and there decomposing? But we must remember that we cannot have a decomposition of nitrogenous matter without the production of germs. If suppuration does not depend on a bacteria why do certain forms of dressings give better results? Why does Max Schede, of Hamburg, who controls the largest surgical clinic of the world, say "Since I have employed the sublimate solution as an irrigant and a dressing the development of a suppurative process is the rarest exception. During the year 1883 there was, with two or three exceptions, not a case of suppuration after an operation during the entire year." Schede had made nine hip-joint exsections about the same time which all recovered without any reaction whatever. Undoubtedly when the surgeon develops a suppuration in a given case after an operation he is at fault himself. In the face of all this some of the surgeons of Cincinnati are contented to fold their hands and say, "Well, that is only surgical fever that cannot be prevented."

Hacker says ("Antiseptic Treatment of Wounds"): "It is now generally recognized that the dangerous forms of inflammation of wounds are excited by those changes in the blood or in the inflammatory products which are brought about by the entrance of agents of putrefaction from outside, and that surgical fever depends upon the absorption of these products."

Surgical fever and septic fever are therefore not different processes but are only greater or less degrees of the same process.

That we cannot understand thoroughly the process of decomposition is not said that it is not due to a specific agent. It is

true enough that organic substances as unstable as the tissues of the animal body, where they are changed, where they are brought under entirely new conditions, undergo decomposition without proof that a specific micro-organism has been the cause; but this is no evidence that they are not there, or have been the cause; it only shows that we have not yet reached that point where we can set up positive proof for everything. But that we are continually advancing can be seen from the views that were formerly held of traumatic fever: that it was due to or dependent on nervous irritation, while pyæmia was always an additional disease miasmatic and contagious. To-day but a few old fogies cling to the old theory, while the majority have accepted the true pathogeny of the disease. Koch has taught, as also many others, that decomposition is begun and carried on by the development of very small organisms, and the antiseptic treatment of wounds consists in preventing from the first the access of these organisms or destroying them after they have gained access. While Lister's ideas were incorrect, in the main, possibly the subject of antiseptics in surgery has received a thorough investigation since his first publication, for the theory has had many opponents as well as adherents and to-day there is scarcely a medical journal published that does not contain one or more articles in every issue on the use of some new antiseptic, and the use of all these drugs is based on the germ theory, and from present indications it will work its way despite the efforts of the medical obstructionists. *

A LESSON TO BE REMEMBERED.—On the morning of Friday, September 1, 1854, the cholera suddenly attacked a number of persons residing in the sub-district of Berwick, in the city of London. The outbreak was confined to the immediate vicinity of a well situated on Broad Street.

This well was the centre of an infected district: "a person starting from thence and walking at a moderate pace would have got beyond its limits in three minutes" (English Rivers Pollution Reports). During the month of August preceding the outbreak, only twenty six cases of cholera were reported to the London authorities from this district (Berwick).

The epidemic reached its height on September 2d, and declined about fifty per cent. on the 5th; after which it dwindled off until the 20th, this day being the first on which no death took place. The total number of deaths in the district from the 1st, up to this date was 609.

Investigation showed that about seventy-eight hours before the great outburst of the disease a child was attacked with cholera in the house No. 40 Broad Street, and its dejections were emptied into a drain which ran within a few feet of the well. The water from this well was very popular with the neighborhood.

Analysis showed that it contained in 100,000 parts 137 parts total solids and 7.72 parts organic and volatile matter. It was clearly shown that nearly all the persons attacked with the disease had drank the water from this well.

In one case, an old lady and her niece, residing at a distance, had been in the habit of having the water brought to them daily. They both had cholera, while none of their neighbors contracted it.

The history of this well should be engraved on the mind of every sanitarian. The activity displayed by health authorities in searching out and stopping the water from city wells shows that it has not been lost on them. The use of such water for the preparation of aerated drinks is the more dangerous, since such beverages are prescribed for invalids.

The history of the cholera in Manchester and Glasgow illustrates most forcibly the importance of pure water supply for cities. Until 1851 the people of Manchester and Salford obtained water partly from wells and partly from the River Irwell. But these sources were much polluted with excrementitious matter.

In 1851 a pure supply of water was introduced into these towns. The following figures, taken from the report of the Rivers Pollution Commission, show the mortality during the polluted and pure-water periods:

Total mortality in Manchester and Salford, polluted-water period: 1832, 890; 1849, 1,115; pure-water period: 1854, 50; 1866, 88.

The history of the disease in Glasgow affords evidence equally conclusive. Until 1859 the water supply was drawn from the Clyde, and was polluted by the drainage of towns higher up the river. After that year a pure supply was obtained from Loch Katrine.

Total mortality in Glasgow, polluted-water period: 1832, 2,842; 1849, 3,772; 1854, 3886; pure water period: 1866, 68. Mortality per 10,000 of population, polluted-water period: 1832, 140; 1849, 106; 1854, 119; pure-water period: 1866, 16.

These facts are not new to sanitarians who have studied the subject, and they can be multiplied to any extent desirable to prove the intimate connection of cholera with water supply. We repeat, then, we are glad to see that the health authorities in this city are so thoroughly alive to the inspection of wells, and are so strenuously in favor of preventing the use of the water from them for drinking purposes.—*Medical Record*.

THE POISONS CONTAINED IN CHOLERAIC ALVINE DISCHARGES.—The *London Medical Record*, May 15, 1884, says; Mr. Vincent Richards published in the *Indian Medical Gazette*, March, an account of some experiments on dogs made with choleraic dejections; he failed to obtain positive results. In the April issue he reports positive results obtained by experiments with pigs. In his first experiment he gave to a pig three months old a choleraic discharge which had just been evacuated; the animal became very restless, vomited, and died. In a second experiment the semi-solid contents of the intestine of a pig killed by the alvine discharges of a cholera patient were given to a half-grown pig; the animal was not affected; the same pig subsequently took the alvine discharges of a patient who recovered, but was at the time apparently suffering from the first stage of cholera; the animal recovered, but, in a subsequent experiment, died one hour and twenty-eight minutes after the administration of an undoubted choleraic evacuation. Other experiments, seemed to show that the evacuations, if kept more than a few hours, lost their poisonous properties. The administration of

fresh evacuations was followed by death in from fifteen minutes to two hours and fifty minutes. Mr. Vincent Richards thus summarizes the conclusions at which he has arrived: 1. That choleraic evacuations, at certain stages of the disease, contain a most virulent poison. 2. That if the poison finds its way into the stomach, it is absorbed and rapidly proves fatal. 3. That the active agent of the poison is not an organism, but of the nature of a compound of a comparatively unstable nature. 4. That it will probably be found to be easy to destroy the power of the poison existing in the evacuation; in other words disinfect them. 5. That although the poison decomposes, it might by desiccation retain its powers for some considerable time. Hence, clothes, etc., stained with choleraic discharges, might be a source of danger.—*The Medical and Surgical Reporter*.

CHOLERA AND THE PRICE OF DISINFECTANTS.—The alarm over cholera has caused a marked increase for the demand for disinfectants and cholera drugs. A member of a large drug firm in this city states that opium has advanced twenty-five cents per pound in the last few days. It may be questioned whether the rise in opium comes from the scare or the shortness of the crop this year. Sulphate of morphine is twenty cents per ounce higher and oil of peppermint has recently advanced. The demand for camphor is increasing, and a rise is expected. Chloride of lime is being largely purchased, and is twenty-five cents per hundred pounds higher. Carbolic acid crystals have advanced from twenty-five to thirty per cent. There is considerable buying by France in England also.—*Medical Record*.

MEDICINE AND MEDICAL MEN IN DENMARK.—The coming meeting of the International Medical Congress, to be held in Copenhagen, makes Denmark just now a point of professional interest. The *Lancet* is publishing a series of letters relative to this question, from one of which we extract the following:

"In proportion to the population of Denmark the number of Danish medical men is large, as is the case in almost every country. In the city of Copenhagen, where the inhabitants number some two

hundred and fifty thousand, there are more than three hundred and fifty doctors, of whom about two hundred and fifty are general practitioners, the remainder being mostly either young medical men in the hospitals, or elderly gentlemen who have retired from practice. There is no difference made between surgeons and physicians, inasmuch as all have to pass the same examination at the University, and this gives the whole profession an uniformity that does not exist in England. With the exception of a few specialists and surgeons, the majority of medical men are general practitioners, and it is the custom for each household to have its own doctor, who, in return for his services, receives a fixed annual fee, varying in amount according to the means of the family. This arrangement has its advantages and disadvantages, but is generally thought satisfactory to both parties concerned. It tends to make the incomes of the medical men more fixed and permanent, and it affords the patient opportunity for calling in his doctor for what may be either serious or trifling complaints. As an illustration of this latter, there is a trustworthy story of an elderly lady sending for her doctor late at night because she was troubled in her mind as to whether it would be prudent for her to eat a baked apple the first thing in the morning.

In Denmark medical men hardly ever attend normal deliveries. These cases are left entirely to midwives, who have to attend a midwifery school at the Lying-in Hospital for the greater part of a year, and then to pass an examination previous to being allowed to practice. Of late, however, there has been a movement in the medical profession in favor of general practitioners undertaking these cases, though as yet the movement has not met with much success. A change which would probably meet with most approval would be for educated ladies qualified as midwives to undertake these cases. At present their number is small.

The social position of members of the Danish medical profession is almost the same as in England, excepting that there are very few who have large incomes from their practice. Fees, as in England, are here considered only a *pium desideratum*, and are as a rule much smaller. Consequently a man with an average income is only tolerably well off, but as wealth is more equally divided in Denmark than in England, a small income has not the same

significance. While one meets with few millionaires, but few paupers are to be seen. One observes in the streets of Copenhagen nothing approaching the luxury in the outward appearance of life which prevails in England, but at the same time one does not encounter rags and misery, and such a thing as death from absolute starvation has hardly ever been heard of. The result of this financial equality is that money has not the same importance attached to it as in England, consequently that perpetual struggle to keep up appearances (an expression which does not exist in the Danish language) is unknown here, a man's education rather than his account at his banker's forming his passport into social circles. There exists a good understanding between the Danish medical profession and the general public. One very seldom hears of a medical man being judicially accused of faults in treatment, and a fine in such cases is almost unknown. Such a thing would be ruin to any practitioner, as his case would soon be public property in a small country like Denmark. There is, too, a decidedly good feeling among the members of the profession themselves, at least in Copenhagen. There are, however, very few medical societies and clubs, partly owing to the fact that clubs do not flourish in this country, and partly because medical men, being chiefly practitioners, have very little time to spend outside their homes. This is also the reason why there are comparatively few Danish medical authors."—*Medical Press.*

Translations.

THE TREATMENT OF ULCERS OF THE CORNEA THAT HAVE A TENDENCY TO PERFORATE BY MEANS OF A CONJUNCTIVAL FLAP.—Prof. Kuhnt, of Jena, has devised a procedure for the treatment of certain forms of corneal ulcer that have a tendency to perforate despite all the efforts of the physician. Every oculist has certainly been unfortunate enough to have come in contact with this class of cases, where the disease progresses until the entire thickness of the cornea has been destroyed, when perforation occurred. Paracentesis has been practiced through the base of the ulcer to hasten the repair. The operation generally is not a dangerous one, save in an oc-

casional instance where the iris prolapsed into the wound, producing synechia anterior, and the consequent symptoms of irritation of the iris. Aside from these occasional bad results, it was a universal desire that the therapy of this disease be improved on account of the poor results that usually followed. K. does not explain the healing of the ulcer after perforation as due to reduction of the intraocular tension direct, but indirect. We can only have one of these torpid perforating ulcers where the nutrition of the cornea has been lessened, and the vital energy of the tissues around the ulcer has been reduced. Perforation, either natural or artificial, by opening the anterior chamber and lessening the intraocular tension produces a hyperæmia of the entire vascular system, and then a secondary succulence of the cornea. Through these factors a large quantity of material necessary for repair is thrown out, which results in a relatively rapid cicatrization of the ulcer, either with or without involvement of the iris. This theory was to furnish the basis for therapeutic relief, but it was to be done without interfering with the anterior chamber. After some reflection, K. found that the same results could be obtained by covering the ulcer with a suitable conjunctival flap, having a broad pedicle. The base of the ulcer is scraped and disinfected by means of a strong solution of sublimate (1-400), the margins must be scrupulously cleansed. In this manner the wound was protected from irritants and impurities from the atmosphere, from the constant friction of the eyelid, and at the same time the whole surface was covered with a living tissue. The results of this effort have been so unexceptionally good that we will give a history of one of the cases that were reported, with the method employed for its relief.

C.I., aged 13, took sick Christmas, 1883, he developed a strong coryza of the right eye. The instillation of atropine, compress bandage, warm moist, disinfecting fomentations, did not bring any relief in the course of three months, and in March he was brought to the clinic at Jena. Lids were somewhat reddened, conjunctiva and lachrymal apparatus was perfectly healthy. The bulbus shows a slight ciliary injection, and a large ulcer at the lower margin of the vertical meridian, of a triangular shape, with the apex toward the sclero-corneal junction; the periulcerous region is infil-

trated with pus, the entire cornea is somewhat opaque—a typical case of perforating ulcer. The therapy in this case consisted in carefully scraping the walls of the ulcer, which were undermined to the extent of one millimetre, the whole surface was paired with a fine brush with a solution of sublimate, 1-500, and finally a conjunctival flap of a suitable size and shape, with a broad base, was made, and turned with the raw surface to the cleansed ulcer. A little care must be exercised not to twist the pedicle of the graft so much as to cut off the nutrition. All bleeding must escape before the pedicle is placed in position. In a few moments the flap had become so firmly attached that it required considerable motion to dislocate it. A few drops of duboisin ($\frac{1}{2}$ per cent solution), was instilled into the eye, and the antiseptic sublimate dressing, 1-4000, was applied and permitted to remain for three days. When the eye was opened, the flap was found to be firmly adherent. The diffuse cloudiness of the cornea, the infiltration near the margin of the ulcer, has disappeared. The iris, which was formerly immovable, is now partially dilated. The patient was discharged on the seventh day as cured. The conjunctival flap contained but five vessels, and these became much smaller in the course of a few days.

The author reports quite a number of cases equally interesting. The only thing that need be said of them is that the results were good in all.

Not infrequently the ciliary pains, almost intolerable before the operation, disappeared, and the atropine employed as a mydriatic also acted better after the operation.

The question now arises, is the operation as above given, safe and practicable? It certainly requires careful manipulation to clean the ulcer, otherwise there may be some danger of perforation, but should this really occur, nothing more would have been done than to carry out what has been the panacea in this class of cases for years. It has not been fully described yet where the best place is to take the conjunctival flap from.

It is desirable if possible to transplant the mucous membrane, not that the results are not so good but the operation is more perfect. After the graft has become adherent the blood vessels get very much smaller and in the course of two weeks it

resembles a thread which finally disappeared entirely. It would be quite premature to say what the results of transplantation of conjunctival tissue would be without a flap.

While this operation may be original with Kuhert, yet in the annual report of Ewers' eye clinic, by Schœler, of 1876 we find statistics on the subject of ulcerating and staphylomatous corneal affections treated by covering with conjunctival flaps.

The work reflects credit on the author nevertheless and is well worth the consideration of all oculists, since the results usually obtained in this class of cases is not very satisfactory to say the least. C.W.T.

IODOFORM IN DISEASES OF THE EYE.—By Pereyra. Iodoform in the form of an ointment or dusted into the eye has a soothing effect, especially in infiltrations, abscesses of the cornea and hypopyon keratitis. It acts as a myotic, reduces intra-ocular tension. Myosis, according to Pereyra, does not depend on an irritation, like when eserine is used, but is due to a paralysis of the sympathetic nerve fibres. The experiments of Prof. Lucian on a number of rabbits verify this statement completely. As a result of these observations Pereyra employed iodoform in two cases of secondary glaucoma with severe ciliary neuralgia where eserine had utterly failed to give any relief. He also used it in a case of acute glaucoma, and in all cases he was soon able to record a diminution of tension and a disappearance of the pain. C.W.T.

Abstracts.

OPHTHALMOLOGY, ETC.

[PREPARED BY DR. DAVID DEBECK.]

METALLIC BODIES IN THE EYE.—Leber contributes (*Graf's Archiv*, xxx., 1) a preliminary article on this subject. Leber has made numerous experiments during the last few years to determine the action of foreign bodies in the eye.

With bodies chemically indifferent, the result is simple; no inflammation (beyond that of the experimental wound) is excited. These bodies, gold, platinum, glass, etc., introduced *aseptic*, are retained for months and years perfectly innocuous. Clinical observations agree with this, as Landmann's careful review of these cases shows.

With bodies not chemically inactive, as

iron, steel, copper, etc., inflammation of a greater or less grade ensues. The question arises whether this be due to chemical influence; or whether, in these cases, there be not a coincident infection.

A fragment of needle, rendered aseptic by heat, introduced into the anterior chamber produces only slight inflammatory reaction; loses its polish, becoming brown, coated with a delicate film of oxide of iron; and surrounded, where in contact with neighboring structures, with a thin layer of exudation. Such bodies may remain for months and longer without further trouble. Copper acts more energetically; a fragment similarly introduced produces violent inflammatory reaction, and in a few days is surrounded with pus. This exudation finally shrinks and, in a way, encapsulates the fragment. This inflammation, however, remains localized, and has not the spreading character of a septic inflammation.

Fine filings of iron introduced into the anterior chamber are followed* by only slight reaction; the particles become imbedded in a slight fibrinous exudation. In a few days the iron disappears, having been absorbed; and in a few weeks the exudation has also nearly disappeared. Filings of copper produce decided reaction, and are soon imbedded in little clumps of pus. These are also absorbed.

These experiments prove conclusively, that foreign bodies of oxidizable metals can, in themselves, produce inflammatory reaction; that much depends on the site they occupy as well as the kind of metal; and show about what degree of inflammation results, as a rule, under aseptic conditions, in these cases.

THE JEQUIRITY QUESTION—(Continued). POLLAK, St. Louis (*American Journal of Ophthalmology*, June, 1884), reports his results in fifty-one cases. Success here was almost uniformly good; only in one case was a disastrous result met with. This case developed purulent infiltration of the right cornea, with partial sloughing and final loss of vision. The other eye remained good; but the granulations recurred in each.

He uses a fresh, three per cent. infusion, macerated only one or two hours in cold water and filtered; applied three or four times.

ALT, in an editorial note to the above report, adds a case from his own practice

in which a dense pannus developed in a clear cornea, and did not yield to the repeated use of jequirity.

GALEZOWSKI, some time ago (*Receuil d'Ophth.*, January, 1884), reported four cases of ill results or non-success. In one case an ulceration of the cornea developed; in another a slight ulceration of the cornea was transformed into an extensive (*vaste*) one, with perforation and prolapse of the iris; in the other two, after repeated careful applications, the granulations remained or had recurred luxuriantly.

SYMPATHETIC OPHTHALMIA.—ALT, St. Louis (*American Journal of Ophthalmology*, July, 1884), gives the result of some experimental research upon this subject.

Experiments were made to produce sympathetic ophthalmia by cutting and wounding one eye in a variety of ways. These were uniformly negative.

Then the experiment was made of passing a silk thread, soaked in croton oil, through the optic nerve. This produced in the other eye an undoubted optic neuritis; easily visible with the ophthalmoscope on the fourth or fifth day; and disappearing in about a week.

Then septic material from putrid meat was injected into one eye. A panophthalmitis ensued; but as regards sympathetic trouble, these also were negative.

Then injections of an infusion of jequirity were made. This active agent produced violent panophthalmitis, and in most cases death. One rabbit developed sympathetic optic neuritis on the third day, which had disappeared on the seventh day. Another rabbit developed sympathetic *iritis* on the third day. The injured eye examined showed the anterior chamber filled with an exudation, composed of a fine network of minute threads of fibrin, forming small meshes, containing lymphoid cells: *i.e.*, very like a *croupous* membrane. Uveal tract inflamed and infiltrated; vitreous chamber filled with this same exudation. Optic nerve shows interstitial neuritis; optic papilla oedematous, projecting into the vitreous; optic sheaths with here and there a patch of this peculiar *croupoid* exudation.

The affected eye examined showed the exudation upon the iris and in the pupillary area to be identical as regards this croupous-like character in the injured eye. Uveal tract inflamed; supra-choroidal

space and vitreous near papilla with this same exudation. Optic nerve and papilla with interstitial keratitis; optic nerve sheath as in other eye. Ciliary nerves show *no pathological changes*.

Alt concludes: "In this experimental case of sympathetic ophthalmia the material which caused an inflammation in one eye, as well as the resulting inflammatory process, have both directly traveled from the injured eye to its fellow, and not by the sheaths of the optic nerve alone, but also by the optic nerve itself."

Selections.

MEDICINE.

PHENO AND GAULTHERO—"SALICYLIC ACID." A paper read at the Ohio State Pharmaceutical Association at Cincinnati, May 27th and 28th, by J. Winchell Forbes.

During the summer of 1882, while occupying the responsible position of chief and, in point of fact, only clerk in a country drug store in the mountains of California, the writer received from San Francisco, or "The Bay," as it was termed, a sample of oil of wintergreen which had been unduly inflated. Now, while the ethical views of my principal were of a very exalted nature, and intimately connected with his pocket-book, his sense of honesty was shocked at the idea of sharing the profits of adulteration with his wholesale dealer, and, like the country boarder, he preferred his butter and flies upon separate plates (and bills accordingly). The sphere of oil of wintergreen at that time scarcely extended beyond the confines of compound syrup of sarsapilla, and some few other preparations whose flavor required aggravation, but the aggravation attained with this particular sample would have been altogether too terebinthinate in character even for the palate of the case-hardened mountaineers, whose indiscretions were an unfailing "true vein" to the mountain apothecaries. In the present advanced stage of the art of sophistication, the use of oil of turpentine may provoke a smile, and we would probably use neutral oil or something not easily detected, but twenty years ago we did not realize that the most criminal part of dishonesty is detection. The result of simple moral analysis of the sample under consideration being sufficiently conclusive, a summary verdict of N. G. was rendered, and the whole invoice

of no less than one pound avoirdupois was relegated in disgrace to the back room.

Subsequently an attempt was made to separate the oil of wintergreen by fractional distillation; this not proving satisfactory, the writer determined to isolate the salicylic acid said to be present in the oil of wintergreen, and recombine it with methyl, as a matter of pastime, however, at a time when the waits between customers were long and tedious. The following winter this was partially carried into effect, but owing to the fact that no wood alcohol was to be obtained in California, the manipulations ceased with a production of a crystalline mass, an object of interest solely from a chemical point of view. Calvert's investigations in the direction of carboic acid and its disinfectant properties were yet new. The science of disinfection was in its infancy, and not one of the many that gazed upon that unpretending mass of crystals had any suspicion of the role that those little needle form bodies were destined to play in medical and industrial science. When the damp mass was finally thrown away as of too little value to cumber the shelves of even that receptacle of odds and ends, the "back room," there were no mourners at the funeral. It was literally unwept, unhonored, and, were it not for subsequent developments, would doubtless be unsung even in these humble strains. Possibly the deceased might have muttered in the depths of the waste barrel.

"Lord, what fools these mortals be." While not prepared to assert that the capability of the unappreciated genius were absolutely unknown, it must be admitted that, so far as any practical application was concerned, it was born at too early a period of its existence and belonged as yet to the future. The composition of oil of wintergreen, as well as those derived from birch and senega, was highly interesting as confirming the theory that the flavor of fruits depended upon peculiar ethers, these oils being apparently identical, and one and the same compound ether—salicylate of methylic oxide.

While this can scarcely be considered proved beyond question, the ethers of all radicals, even silicon and boron, are aromatic and of a fruity odor. Oil of spirea, or meadow sweet, was interesting as containing the same radical as oil of wintergreen, but in form of what was known as free salicylous acid. While the synthesis of

fruit flavors was desirable from an industrial point of view, it was hardly to be expected that any superfluous energy would be expended in that direction by chemists, and it was not until the salicyl derivatives were found to possess antiseptic power that any importance was attracted to them. Kolbe found 0.04 per cent of salicyl hydrate, or what is now known as salicylic acid prevented the natural change of souring of milk. That 0.15 per cent prevented the formation of bacteria in organic solutions, while 0.3 or 0.4 of one per cent killed bacteria already formed and in process of vigorous development. Miller found that 0.2 per cent visibly retarded the action of pepsin upon albumen. In the light of their discoveries and those of other investigators, great things seemed possible, and ragged old carbolic acid seemed tottering upon his throne as king of antiseptics.

No one doubted his ability or fitness for the position. Daily and hourly work in the hospitals and in private practice only served to show conclusively his merits, but he smelt bad, lacked the refinement essential for the sick room, and was altogether too obtrusive and masculine in disposition. Carbolic acid, as you can all testify, is no dude. In these days of rapid transit but a short time is required to blazon any discoveries of value to the four quarters of the earth, and both medical and industrial scientists repeated, and in the main confirmed, the work of Kolbe and his co-laborers. Pagenstecher, in 1834, demonstrated that oil of spirea, or meadow sweet, consisted almost wholly of a derivative of salicyl—salicylous acid. A few years later Piria and Etting converted this into salicylic acid. The action of fused hydrate of potassium upon salicine also yielded the desired antiseptic.

Several other methods were known, but of no value from an industrial point of view, and salicylic acid was an expensive article.

We may sum up the available sources of production previous to 1874 as salicine, oil of spirea, oil of wintergreen. (Oil of birch, although known to be nearly identical with that of wintergreen, was not an article of steady production.) These bodies all contain the salicyl radical, or at least the elements of the same. The chemical position of salicine was then viewed as that of a glucoside, oil of spirea as salicylous acid, oil of wintergreen as salicylate of methylic oxide. The oil of wintergreen was viewed as a com-

pound ether. It is evident that salicylic acid, as such, does not exist in any of them, but it is fair to assume that in oil of wintergreen its elements are arranged in that position in one group, while those of methylic oxide are found in another, and that the production of salicylic acid from this crude source consist simply in a separation of the groups. The separation may be effected in the following manner: Oil of wintergreen is acted upon by a hot concentrated solution of potash; a crystalline mass is obtained. This is decomposed by an acid which liberates the salicylic acid, not a very elaborate process upon the face of it, but, as will be shown later on, capable of affording varying results. Oil of spirea consist almost wholly of salicylous acid. When this is treated in the cold with a strong solution of potash, salicylate of potash is formed, which may be obtained in large yellow crystals by recrystallization from alcohol. When, however, oil of spirea is fused with an excess of solid potassic hydrate, this compound is not formed, but in its place the potassium salt of the higher acid—salicylic.

Salicine can also be made to produce salicylic acid by fusion with the hydrate in the same manner. The history of salicylic acid but repeats that of many other chemical substances, and the increasing demand naturally directed attention to the need of some source of supply more constant than those available at the time. Valerianic acid was already a subject of artificial production. Schiff had formed conia synthetically, while the researches of Gerhardt, Laurent, and others, and definite work in the formation of substitution products, by throwing light upon the structural constitution of organic bodies, rendered it possible for chemists to strike out boldly in the effort to form a definite natural organic compound from elementary factors derived from sources wholly foreign to the class of which the natural compound was a member. Oil of wintergreen had been some time itself a subject of artificial formation, as an ether, by the distillation of salicylic acid, sulphuric acid, and wood spirit. The salicylic acid necessary was obtained from salidine, while this in turn was extracted from willow bark.

— But willow bark is no more available as a foundation stone than a wintergreen plant. The industrial production of oil of birch, while increasing in some degree the supply

from natural sources, did not place us independent of climate influences. The arrangement in classes of organic compounds, the simplification of views as to constitution, and the invention of a general formula for a series, was perhaps the most certain method possible of insuring a clear appreciation of relations that would otherwise be anomalous and devoid of significance. In fact, definite and rational generalization was at last rendered possible. The same compound may be assigned a position not only in that series of which, owing to natural occurrence or other circumstances, we are accustomed to consider it a normal member, but in several others; thus the salicyl derivations have been viewed from different points and named accordingly. Salicine, usually known as a glucoside, as a compound of saligenin with another body that, by assimilation of the elements of water, as soon as a separation is effected, is converted into grape sugar. Oil of spirea has been considered as salicylous acid.

Again viewing salicyl as a radical analogous to benzoyl, oil of spirea was considered the hydride, the benzoyl series being benzoyl, oil of bitter almonds, benzoic acid, and that of salicyl, salicyl, oil of spirea, salicylic acid. This view is very satisfactory as establishing a species of connection between the aromatic groups founded upon salicyl, benzoyl, anisyl, cinnamyl, toluyl, and cumyl. The respective hydrides being oil of spirea, oil of bitter almonds, oil of anise, oil of cinnamon, oil of tolu, and oil of cumin, and the hydrates being salicylic, benzoic, anisic, cinnamic, toluic, and cuminic acids.

Again, salicine is viewed as an alcohol, oil of spirea as an aldehyde, yielding by oxidation salicylic acid, and finally a group has been arranged with saligenin as orthohydroxybenzyl alcohol, oil of spirea as orthohydroxybenzyl aldehyde, and salicylic acid as orthohydroxybenzoic acid. Working from the natural aromatic oils as a starting point, chemists had formed the hydrocarbons, benzole, toluole, and cymole, and others, taking a point of departure in coal tar, had produced the same compounds, and many points of resemblance between the coal tar series and that known as aromatic the group drew attention to the favorable character of synthetic possibilities, and lead experimenters to turn their attention to that product of the gas works that but a few years since was in every sense a "cumberer

of the ground." The significant fact that laid fallow for many years, that salicylic acid, when sharply heated, splits up into phenol and carbonic acid, assumed importance, and it was not long before salicylic acid was obtained artificially by their recombination. Like all new processes, however, technical difficulties stood in the way, and it was not until 1874 that Kolbe succeeded in producing salicylic acid on an industrial scale. A solution of phenol and a concentrated solution of caustic soda is evaporated to a dry powder. This is heated to 100° C. in a current of dry carbonic acid, and the temperature gradually raised to 250° . At the close of this process one-half the phenol is in the reservoir, and the retort contains salicylic acid in combination with sodium. Paraoxybenzoic acid is formed unavoidably, and a few other minor secondary products. The discovery that salicylic acid could be sublimed unchanged in a current of steam was the final straw that broke the back of oil of wintergreen as a source of supply.

Now, as phenol, phenic acid, phenylic alcohol, or, as it is usually called, carbolic acid, is derived from a practically inexhaustible source, as we obtain our soda from common salt, and limestone is a drug in the market, we may safely snap our fingers at the manufacturer's tin still and birch bark cord wood, and as our coal pit and salt works hold out, feel assured of a plentiful supply of artificial salicylic acid. I say artificial advisedly, as our experience with artificial bodies is not of such a nature as to warrant our acceptance of them as identical with those occurring naturally. Vanilline, in a great measure, is a failure. Hugo Schiff himself has knocked the underpinning from his conia. No expert can be deceived with a manufactured benzoic acid. Neither kairine or kairiline has driven quinia out of the market. Even the time honored amylo-valeric acid appears to have failed to keep up the family reputation, and the old-time glory of the valerian bottle has sensibly departed. We must remember that there are secrets which we as yet have not wrested from nature. Oil of lemon and oil of turpentine are composed, as far as we know, of exactly the same elements, yet we know they are not the same. Isomerism, either physical or structural, does not prove identity of character. The equation CH_4O , given for wood alcohol, also represents an oxide of the radical CH_3 , and CH_4 is marsh gas. This would

suggest the utilization of the fire-damp of coal mines. Only a single equivalent of oxygen is required to convert that agent of death and destruction into merchantable wood alcohol, and were there nothing in the way, as Colonel Sellers would observe, "There's millions in it." Unfortunately there is something. This is shown by the formula: Marsh gas + oxygen = CH_4O ; wood alcohol = CH_3HO , CH_4 and CH_3 although both gases are very different bodies, Marsh gas, however, is sometimes considered as methyl hydride, and its formula written CH_3H . In view of its great stability and natural occurrence, CH_4 appears more reasonable, as indicating a closer union of elements.

The arrangement in space of the factors of a compound has as much to do with its character as the nature and number of these factors; thus, salicylic acid may be explained, $\text{C}_7\text{H}_4\text{O}_3 + \text{H}_2\text{O}$, $\text{C}_7\text{H}_6\text{O}_3$, or as $\text{C}_6\text{H}_4(\text{OH})\text{COOH}$, the first and last being based upon definite views of molecular structure, while the second is non-committal. Again, when considered as salicylic hydrate, it may be written $\text{C}_7\text{H}_5\text{O}_3\text{OH}$. Blake's researches upon isomorphism have shown that the physiological effect of inorganic compounds are dependent upon the atomic weight of the electro positive element of the compound, that the acid with which it is combined exhibits little influence, and that isomorphous metals agree in physiological action when injected into the veins of a living subject, but the identity of such action varies with the atomic weight of such metals. Experiments are yet wanting in the case of carbon compounds, but those of Dujardin have shown that in the case of alcohols, those of a given series having the highest atomic weight have the most intense physiological action. It is highly probable, therefore, that the relative effects derived from the administration of organic compounds may be ascribed to the character of the carbon nuclei upon which they are formed.

In the imperfect state of our knowledge of the exact structure of organic bodies, we can not say that the nucleus of orthohydroxybenzoic acid and that of the isomeric compounds as occurring in oil of wintergreen are counterparts, and unless they are, phenol salicylic acid and that from gaultheria are not the same.

In the manufacture of the phenol variety a great number of products are of possible

formation, and many of the so-called substitution products differ in so slight degree, as to physical habitudes, that a complete isolation of one from the other is attended with much difficulty, and it is likely that commercial samples of phenol salicylic acid may contain higher or lower members of the benzol family, or even more remote derivatives. However, taking it for granted that our commercial acid is impure in character, we must remember the fact that the secondary bodies of possible formation during the action of potassic hydrate upon oil of wintergreen spring from a different radical. Viewing this radical as producible by substitution from a phenolic nucleus as a starting point proves nothing. We have too many cases in the history of synthesis that militate against our pinning our faith to such data. The fact of methylic environments in one case and phenylic in the other point to different possibilities. When we disconnect the elements of organic compounds they sometimes intermarry in the most unexpected manner. Oil of wintergreen is mainly a methyl-ether salt of salicylic acid. When this is treated cold with a solution of potassic hydrate, a metallic derivation, containing as bases both methyl and potassium, is found. When this is treated with an acid (usually hydrochloric) the ethereal salt is again obtained. Upon heating with a concentrated potassic solution a different result follows, and we obtain salicylic acid and wood alcohol. The acid is in combination with the alkali, as a matter of course, but those who have made salicylic acid upon a commercial scale will remember that even when the process was conducted in open vessels, but little of the odor or irritant effects of methylic alcohol upon the eyes was felt. This fact is very significant, and leads to the inference that not only may the mixture contain salicylic acid and potassium, but methyl also in combination. The mixture now being acted upon by hydrochloric acid, in addition to salicylic acid and chloride of potassium as results, we must recognize the probable formation of methylic chloride, and the possible conversion of a portion of the salicylic acid into methyl salicylic acid through the influence of this body. As has been previously stated, the possibilities of what may be termed the process of production from phenol and the process of eduction from oil of wintergreen are different, and as pharmacy cannot be considered as an exact science, the consideration

of such possibilities is of the greatest importance, especially in view of the discordant results obtained by physiological experiments. Unfortunately, the variety of acid is rarely stated, and the mass of literature upon the subject of physiological action is too contradictory in nature to warrant conclusions. Enough, however, has been published to demonstrate that the agent is of the greatest value in the treatment of rheumatism. Late statistics of 400 cases treated at the Roosevelt Hospital show that cures were oftener effected with this than any other agent; that the "stay" in the hospital was much shorter, and also demonstrates the important fact that the most eligible form for administration was in capsules, disagreeable symptoms ensuing in twenty-two per cent of the cases treated with solutions, against eight per cent of those in which capsules were used. In view of the fact that it is desirable to fix the therapeutic value of both varieties of salicylic acid, it is unfortunate that no important physical difference exist. The handsomest sample ever seen by the writer was produced simply by recrystallization of a dirty lot of the phenol variety, and the largest practical yield was from an oil of wintergreen of undoubted phenolic parentage. Any attempt at differentiation by tests based upon the detection of carbolic acid must necessarily fail where a pure acid is operated upon. In the experience of the writer, however, the application of the chlorine and the ammonia test reddened a sample made from supposed true oil of wintergreen. As the reddening has been shown not to be due to the influence of carbolic, but rosolic acid upon ammonia, this test is ambiguous, to say the least. Allen's test—partial neutralization with soda—shaking with ether and evaporating the ethereal liquid, would undoubtedly detect carbolic acid; but this test, again, simply is of value when applied to an impure phenolic acid. What is needed is some method based upon some essential difference between pure samples of the two varieties, if any such difference really exists. Demonstration of identical nuclei, developed in the same manner, would place the responsibility of different physiological results upon the secondary products, which differ widely in nature.

Salicylic acid from the oil of wintergreen, as found in the market, does not present the same physical properties. Some are in large, well defined crystals, while others

are composed of almost microscopic character. Sometimes the crystals are made colorless, and again are of a reddish hue. One manufacturer informs me that his customers derive better results from the crude than the refined acids, while another bends all his energy to secure the whitest and most perfect crystals. Now, we ruin our flour when we cast out the unsightly bran. We may refine our brandy until we have simply alcohol, and we may carry the process of refinement in our own person until, in a practical point of view, we are fit for nothing but to be "gathered to our fathers." Elegant and rational pharmacy are twins, but not the same baby, and it is always a safe rule to "let well enough alone" until the path of improvement is absolutely clear. Some published formulas for o. w. acid direct saturation of the oil with alkali, some an excess, while the formula published by Prof. J. U. Lloyd, about 1874, directs an excess of oil, and, as may be expected, different results follow in each case. When subsaturation occurs, white and odorless crystals are with difficulty obtained; the difficulty is lessened by the increase in the proportion of alkaloid used. While the difference between phenolic and natural salicylic acid may be so slight as to elude detection chemically, one may still exist. We can detect no difference in the composition (so to speak) of ordinary and amorphous phosphorus, yet the yellow is highly poisonous and the amorphous comparatively devoid of toxic power, and in samples of salicylic acid, all made from true oil of wintergreen, the details of production must largely influence the result.

Another point should be noticed, the low price of very handsome oil of wintergreen. The price of oil of wintergreen in open market is (if my memory is not at fault) no higher than that ruling twenty years ago, when the oil was in limited demand. Coupling this with the fact that methyl-alcohol of excellent quality can be obtained at bed-rock prices and phenol-salicylic acid at poor man's rates, it is evident that the manufacturers of o. w. salicylic acid must be cautious in the matter of bargains in crude stock. The uses of salicylic acid, both medicinally and industrially, have not been accorded the notice they deserve, but the limit of this paper will not permit more than the consideration of its chemical status. Even this is very imperfect, and can be viewed only as a partial statement of the

considerations that have lead the writer to believe for the present, at least, a rigid line of demarkation should be drawn between pheno-salicylic and gaulthero-salicylic acids.—*St. Louis Druggist.*

ORAL HYGIENE IN THE NEW BORN.—Epstein, *Arch. f. Kinderh.*, b. v., h. 7 and 8.

The author remarks the importance of this subject from the fact that the mouths of children are susceptible not only to ordinary affections which are common to all ages, but also to certain others which are restricted to the early period of life. Since these affections can in most instances be avoided, the importance of attention to this subject is quite evident. The diseases to which the author calls attention are simple erythema, catarrhal stomatitis, circumscribed necrosis of the edges of the palate, and other similar changes at other points in the oral mucous membrane, and thrush. The exciting causes of catarrh may be referred to the irritating action of air, food, the act of swallowing, etc, upon a very tender surface. It may be merely a local phenomenon, a symptom of an affection which involves the mucous membrane of the whole intestinal tract, or it may be an accompaniment of a general disease. With the catarrh may be associated a softening and destruction of the epithelium upon the postero-lateral portions of the hard palate, which may develop into an infiltration and necrosis of the mucous membrane throughout its entire thickness, in larger or smaller patches known as aphthæ. Other portions of the hard palate, the soft palate, and the dorsal surface of the tongue along its central portion are less frequently affected. Innocent as this disease is in some cases, in others it leads to quite serious conditions, which may affect the entire organism. Such conditions, in the shape of pain and interference with suckling, very soon tell disastrously upon the sensitive constitution of a new-born infant. Dyspepsia intervenes, and with it may come gastro-enteritis, inflammation of the salivary glands and their ducts, nasal catarrh of a muco-purulent character, purulent inflammation of the middle ear, bronchitis, or lobar pneumonia. The local trouble may assume a phlegmonous form, with ulceration or gangrene of the mucous membrane at various points, which may be complicated by the formation of abscesses in the alveolar borders or on the floor of the mouth, deep ulcerations in the

frænum of the tongue, purulent glossitis, retropharyngeal abscesses, and erysipelas. the most frequent cause of the beginning of all these troubles is the mechanical irritation of a very tender surface, and the common habit of washing out a child's mouth immediately after nursing, for the purpose of removing the milk adherent to the mucous membrane. This procedure, by rubbing off the epithelium, and even producing slight hemorrhage, often begets the very condition it is designed to prevent. Mention is made of the irritation which may be produced by a physician in removing the mucus from the mouth of a new-born babe, or by the nurse introducing her finger into its mouth for whatever cause. The author infers that the true treatment is prophylactic—no interference with the condition of the mouth until there is plain indication for it. Among three hundred infants seen by him at the Foundling Hospital at Prague, within a period of eight weeks, one hundred were from Briesky's clinic, in which non-interference with the mouth is the rule, and in only fifteen were there affections of the mouth. In the remaining two hundred, one hundred and thirty-three had some form of disease of the mouth.—*Archives of Pediatrics.*

INSUFFICIENT URINATION IN NEW-BORN INFANTS.—(*Arch. f. Kinderh.* [from Bertix *Buil. d. Scienc. Med. d. Bologna*, Ser. VI., Vol. XII., 1883], B. V., H. 7 and 8.)

Five cases are detailed, in which there was either insufficiency or absolute cessation of the discharge of urine. In the first case, which was that of a well-developed female infant, diarrhea and fever occurred on the fifth day after birth, and on the eighth coma, cyanosis, and swollen abdomen. Neither urine nor feces had been passed, and catheterization yielded a negative result. Death followed, and at the autopsy a cloaca was found, which was formed by the bladder divided upon its posterior aspect and in communication with the vagina, which was much dilated and filled with purulent urine. The uterus was forced upward, the mucous membrane was everywhere eroded, the urethra was wanting, and the ureters were compressed by the umbilical arteries and the round ligaments. The left kidney was deeply imbedded. The second case was that of a rachitic boy twelve months old who, when seen, gave all the symptoms of an acute attack of cholera morbus. Death occurred on the

second day. The autopsy revealed chronic catarrh of the large intestine, urine mingled with pus in the bladder, and phimosis. The ureters were filled with urine, which could be evacuated by pressure. The series of events which led to the fatal issue evidently were phimosis, catarrh of the bladder, edema about the openings of the ureters, and uremia. In the third case, that of a new-born infant, convulsive movements came on some hours after birth, coma, no discharge of urine, and death. The autopsy showed subpericardial effusion of blood near the apex, mottled appearance of the liver, mucous membrane of the bladder disposed in folds and edematous. The ureters were dilated, and there were uric acid infarctions in the kidneys. The want of alkalies was the main difficulty in this case, and warm baths could also have been used with advantage. In the fourth case the child was two days old, and presented small fontanelles and atelectasis. No urine had been passed. On the third day there were convulsions. By the use of the catheter a small quantity of urine was drawn off, but death occurred on the same (third) day. At the autopsy hydrocephalus and compression of the brain were manifest, also dilatation of the pelvis and calyces of kidneys, as well as of the ureters, the latter containing urine which abounded in uric acid infarctions. The cause of death is obvious. The fifth case was that of a puny, undeveloped infant who suffered with convulsive movements and pain in the hypogastrium. After symptoms of bronchopneumonia, death occurred on the fourth day from birth. In the submucous tissue, near the neck of the bladder, four accumulations of extravasated blood were found, two of them being under the openings of the ureters. Thus the exit of urine from the ureters into the bladder was interfered with, and the occurrence of pain is also explained. The author draws no conclusions from the cases which he has narrated.—*Archives of Pediatrics*.

PHLEBITIS COMPLICATING RHEUMATISM.—M. Schmitt (*Archives Médicales Belges*), establishes two varieties of phlebitis accompanying acute articular rheumatism. One form of the disease manifests itself at the height of the rheumatic attack and augments the local pains and the temperature, while the joints become less tense and swollen. The phlebitis usually develops at

the point of junction of the deep and superficial veins. Sometimes the veins remain permeable, the symptoms being confined to slight oedema, slight redness along the course of the vessels, and moderate pain. More frequently, however, this form of phlebitis produces obliteration of the veins, with more pronounced oedema, a cord-like induration, and, possibly, with petechiæ, ulcerations, and even pulmonary embolism. The second variety of phlebitis appears at the termination of the rheumatic attack, rapidly producing occlusion of the vessel, with more oedema, and with pain of considerable intensity. The phlebitis persists for several weeks, occasioning difficulty in walking and in moving the limbs. The femoral, popliteal, and saphenous veins are most frequently affected, but the radial and brachial are sometimes involved.—*Medical Record*.

MEDULLA OBLONGATA IN ITS RELATIONS WITH SEXUAL DISORDERS.—Dr. Harkin, in the *Practitioner*, contributes an able article on the relation of the medulla oblongata to sexual disorder, and on local blood letting as a means of treatment. The author states that he is satisfied that a centre for the genital or reproductive functions may be logically inferred to exist in the medulla oblongata. Notes of cases are given showing the result of treatment based on the theory that a mutual relation existed between a congested condition of the medulla oblongata and the disease called neurasthenia spinalis, and also that of abnormal seminal losses. The treatment adopted is simple, wet cupping glasses were applied to the nape of the neck close to the occiput in severe cases, but in milder ones the administration of bromide of potassium and the extract of belladonna, with cold douches to the nape of the neck, frequently give great relief.—*London Med. Record*.

IODIDE OF POTASSIUM IN PNEUMONIA.—Regarding pneumonia as a general disease with local manifestations, Dr. Schwarz recommended the use of iodide of potassium in six-grain doses every two hours, at the same time applying an ice-bag to the chest over the seat of the pulmonary lesion. All his cases thus treated recovered, some of them within two days. Dr. Gualdi (*Gazzetta Medica di Roma*, May 15, 1884) has similarly treated a number of cases, and reports most excellent results. He formu-

lates the following conclusions based upon his experience with this mode of treatment:

1. Schwarz's method of treating pneumonia gives good results.
2. These results are even better in the case of children than in that of adults.
3. The treatment should be instituted at the beginning of the disease, for when commenced at a later stage the cure is less rapid and satisfactory.
4. The action of the iodide is exerted upon the fever and the general disease, and not upon the local lesion.
5. The iodine and the potassium become separated within the organism and each of them exerts a special effect.
6. The action of the ice is upon the local condition. It is useful in the period of pulmonary congestion, but injurious in the stage of hepatization.—*Medical Record*.

A FORM OF DIARRHEA IN CHILDREN.—

Dr. Lees, in a paper read before the Harveian Society, calls attention to the class of cases in which the main symptom is an irresistible impulse to defecation almost as soon as food is taken; pain may or may not be present; there are no symptoms of dyspepsia. The passages are usually semi-solid, not watery or slimy, and frequently contain solid food; usually a passage after each meal and one or two more in the twenty-four hours. The explanation given is that of increased peristalsis without increase of secretion. It is probably due to irritation of the vagus. The close connection of the nucleus of the vagus with that of the fifth nerve, suggest that probably dentition may sometimes be a reflex cause. Astringents had always failed signally in the treatment, but remedies directed to the neurotic origin, such as opium and especially the bromides, had always given prompt relief.—*Lancet*.

MORPHINISM AND PREGNANCY.—Dr Fere (*Il Movimento*) relates the case of a young woman addicted to the use of morphine in rather moderate quantity, who, when in the sixth month of pregnancy, endeavored to break off the habit. But any sudden diminution in the daily amount taken caused such severe uterine colic that the progress to recovery was very slow. At the time of delivery she was taking about two grains per day, and no attempt was made to reduce this quantity for a week. It was then tried to lengthen the intervals between the hypo-

dermic injections, but the uterine pains returned and the lochial discharge ceased and did not reappear until the injections were resumed. At the end of a month the daily quantity of morphine had been reduced to a little more than one grain, and it was then withheld entirely. The patient suffered severely from intestinal and uterine colic, and was unable to sleep the first night, but the following day all these unpleasant symptoms disappeared, and she was definitely cured.

The effect of the sudden abstinence upon the child, when birth removed him from the influence of the drug, was evident. He was a well developed boy, though emaciated. He suffered from convulsive twitchings, with continuous agitation and crying, for sixty hours, during which time he did not sleep a minute. After that he recovered, slept well, and acted naturally. This would seem to indicate that the foetus is influenced by morphine in relatively small doses, and that it may suffer from the sudden abstinence enforced by birth. This last consideration indicates the necessity for a gradual withdrawal of the drug in such a case.—*Med. Record*.

CHRYSOPHANIC ACID.—Dr. Stocquart reports sixty-one cases treated by internal administration of chrysophanic acid (*Annales de Derm. et de Syph.*, Jan. 1885). No form of local treatment was employed. Of the sixty-one cases, fifty-six were entirely cured, and only one was unaffected by the treatment. The cases of acne, ecthyma, and impetigo, all yielded rapidly to the treatment, except one case of papulous acne. One case of pityriasis and three of urticaria were also quickly cured. In four cases of lichen and four of prurigo, the irritation was rapidly diminished, disappearing before the complete cessation of the eruption in lichen. Of thirty-two cases of eczema, thirty were cured. The author was much struck with the rapid and complete cure of acute eczema and of impetiginous eczema in children. Out of five cases of psoriasis, three were cured. The acid was generally administered in water, the bottle being well shaken before use. In ordinary doses no patient objected to it; it was also prescribed in pills. The medium dose is one centigramme a day for children, and three centigrammes for adults. In these doses it is generally well tolerated; in large doses it

may cause loss of appetite, nausea, palpitation, with præcordial distress and constriction of epigastrium, giddiness, vomiting, and cold shivers. This is an occasional occurrence only, and often much larger doses are well borne. Children tolerate the medicine well; at four weeks, he has given one, two, and in one case five centigrammes without provoking gastric irritation. Where the eruption is limited on parts ordinarily covered, and when the skin is not very thin or delicate, the external use of chrysophanic acid as ointment is indicated. Where a great extent of surface is involved, the internal use is better. Phenomena of local irritation, or erysipelas, or, gastro-enteric symptoms, or nephritis, may be caused by the too free external use of the acid. Its internal use is also indicated when the eruption affects the hands or face. Where the stomach will not bear the remedy, it may be given hypodermically; but is then apt to cause pain and abscess. Its action is more rapid than when given by the mouth.—*N. Y. Med. Jour.*

NOTES ON HYPOPHOSPHITES IN PHTHISIS
By Wm. C. Wile, M.D., of Sandy Hook, Ct., in *New England Medical Monthly*.

In the treatment of phthisis Churchill uses only the single salts of lime, of soda or quinine, according to indications. He never uses combinations. These salts must be chemically pure. He has investigated the various hypophosphites, separately in clinical practice. He objects to the use of Hypo. Iron, because, in order to assimilate a proper amount of phosphorus by its use, the iron tends to produce hemorrhage. He objects to the use of Hypophosphite of Potassium, because this base causes rapid softening of tubercular deposit. The lime salt is more active than the soda salt and sometimes checks expectoration too rapidly causing cough; in such cases he uses the soda. Hypophosphite of quinia is less active than the corresponding salts of soda or lime, and being combined with the tonic base, is peculiarly applicable to far advanced cases, until strong enough to bear the alkaline hypophosphite, either soda or lime as the case may indicate. Another very important recommendation of Churchill's is in regard to doses. Hypophosphites, if given too freely, produce dangerous pathogenic effects, rapid softening of tubercular matter and hæmoptysis. He

seldom gives more than seven grains during twenty-four hours, and begins with two or three grains a day, increasing as he finds the tolerating power of his patient. He uses the soda in the first stage and the lime in the second and third stages of the disease as a rule, though conditions frequently call for changes, as in children teething and for pregnant women, the lime salt is recommended. He objects to the use of alcoholic beverages, as they prevent the return of strength, and bring on a recurrence or an aggravation of cough, fever and sleeplessness. As their effect upon the system consists in a stimulation of the circulation and a diminution of oxidation, it is directly contrary to that of the hypophosphites.

He is opposed to cod-liver oil in these cases because it disturbs digestion, interferes with the appetite and by its local action on the lungs it hinders the elimination of tubercular matter, favors the fatty degeneration of tissue, to which the patient is already prone; diminishes oxidation, thus increasing, without any beneficial effect, the plethora, which the hypophosphites themselves already tend to produce, and in this way frequently brings on formidable attacks of hemorrhage. Arsenic and metallic salts in general almost entirely destroy the beneficial action of the hypophosphites.

He asserts that no reliance can be placed upon the hypophosphites as therapeutical agents, when kept for any length of time in the *state of salts*, and *still less* in aqueous solution; because they become oxidized by atmospheric contact into phosphite and phosphate; this shows the necessity for the use of chemically pure salts, recently prepared and immediately protected by sugar from further oxidation.

Those points are all vigorously urged by Dr. Churchill as *necessary* to the successful use of these remedies, and are all personally applied by him in all cases he treats, and are the conditions under which he has met with his successes.—*New England Medical Monthly*.

SURGERY.

GUNSHOT-WOUND OF THE STOMACH; SUCCESSFUL LAPAROTOMY.—Professor Kocher of Berne has recently operated with success on a case of gunshot-wound of the stomach. A boy, aged 14, was admitted

into hospital half an hour after having received a wound in the region of the stomach, from a pistol-shot aimed at him from a distance of about five paces. He was pale, and complained of abdominal pain; the abdomen was swollen, and distinctly dull on percussion inferiorly. Pressure on the abdomen caused pain. A quarter of an hour later, hiccough, severe epigastric pain, vomiting, pallor, and symptoms of collapse came on. There was tympanitic resonance from the ensiform cartilage to the umbilicus, with complete dulness from the navel downwards and in the flanks; the lightest percussion caused severe pain. Three hours after the injury, laparotomy was performed. On opening the abdominal cavity in the region of the navel, a great quantity of dark blood escaped. The bullet-wound was discovered with comparative ease; it was situated on the anterior surface of the stomach, towards the greater curvature in the direction of the fundus. The wound was circular, with sharp edges, and about half an inch in diameter. The bullet could not be found, nor was there any aperture of exit. The edges of the wound were united, first with two catgut ligatures, like an ordinary wound, and then a continuous silk suture was applied, for the distance of about an inch, so as to invert the serous coat around the wound. Recovery was retarded by an abscess which formed in the track of the sutures in the abdominal wound. Professor Kocher declares that, considering the impossibility of recovery in cases of gunshot-wound of the stomach when active measures are not taken, it is the duty of the surgeon to perform laparotomy whenever an injury of that kind is suspected. The case is recorded in a recent number of the *Korrespondenzblatt für Schweizer Aerzte*, where Professor Kocher publishes several other recent cases of operations on the stomach. Out of three cases of resection of the pylorus, one recovered; a case of gastro-enterostomy, for cancer of the stomach, terminated fatally; one case recovered where the stomach of an agricultural laborer was opened for removal of the end of a coin-catcher, which had broken off during an attempt to extract a large tin nail which the patient had swallowed. The nail itself could not be found. Professor Kocher has also recently performed three gastrostomies for the relief of cancerous stricture of the œsophagus. One of the

patients died within twelve hours, from collapse; the second died on the third day with septic symptoms. The third recovered, left the hospital, and died suddenly two months after his discharge, apparently from an apoplectic stroke.—*Brit. Med. Jour.*

HICCUGH.—A pinch of snuff is said to be a sure cure for hiccough.

TREATMENT OF PARTIAL EPILEPSY BY ENCIRCLING BLISTERS WITH TRANSFER OF AURA.—Dr. Buzzard, in the *Lancet*, gives full notes of a patient aged 23, who came under treatment on account of fits. The patient's own account of the beginning of a fit was that "it feels like going to sleep in the big toe of the left foot, followed by numbness in the right calf, which runs up the leg, often spreading to the genitals, then up the right side and down the right arm, the foot twitches up." On admission bromide of potassium was given every night, at first in doses of 30 grains, then 60 grains. The fits were thus reduced in frequency from nine to two or three nightly. After about a week the bromide was discontinued, no other drug being substituted. Blistering fluid was now painted in the form of a ring, one inch in width, just above the ankle, which produced well-marked vesication. This was done on November 2d, the result being that the day was quite free from fits, one occurred on the 3d, one on the 4th, two on the 5th and 6th. The patient remarked that since the blister he felt twitching in the left leg at the beginning of the attack. Another blister was applied just above the last, and for nineteen days there was not one fit. On November 25th an attack took place, preceded by an aura in the pubic region, and another on the 26th, which commenced with a peculiar sensation in the right groin. In neither was there any trace of the original aura. With the diminution of attacks the patient greatly improved in health, gaining strength and mental power. In the *Practitioner*, Oct., 1883, Dr. Buzzard published his results on the interception of epileptic aura by blistering, and since then has had several cases in which the treatment has been of marked service. In cases where the unilateral character is but ill defined, the beneficial results are often only slight. A ring blister encircling the limb produces an effect

after a quadrilateral blister has failed. A very narrow ring is sufficient if Paquelin's thermo-cautery is used. — *London Medical Record*.

OPERATION FOR HALLUX VALGUS.—Mr. A. E. Barker, in the *Lancet*, 1884, p. 655, records a cutting operation for the deformity known as hallux valgus, where the great toe is pressed outwards by badly fitting boots. Mr. C. Hoar suggested to Mr. Barker that the condition might be relieved by osteotomy of the metatarsal bone, and straightening of the toe without interfering with the joint. The operation was performed on a lad, aged 19, who presented the deformity in a marked form. An incision, about an inch long, was made through the soft parts, on the inner aspect of the metatarsal bone, above its head; a small wedge-shaped piece of bone was cut out just above the head, the base of the wedge being on the inner surface of the bone, and the apex at a point nearly through to the other side. Then, by forcibly adducting the great toe, the part of the bone uncut was snapped through, thus bringing the whole member into a straight line. In this position, it was easily retained by a narrow splint along the inner border of the foot. The wound was dressed antiseptically, and the patient allowed to go home at once. The wound rapidly healed, the result being all that could be wished. — *London Med. Record*.

HOW TO PREPARE CORROSIVE SUBLIMATE GAUZE.—The gauze is immersed in a solution as follows: corrosive sublimate, 20 parts; water, 4480 parts; glycerine, 500 parts, for twelve hours; it is then wrung out, and allowed to dry, as far as the glycerine will permit. At the time of operation, a sublimate solution (1 in 1,000) is allowed to trickle slowly but nearly continuously over the incision. Bleeding vessels are tied with sublimated catgut. Metallic instruments must be immersed in a five per cent. solution of carbolic acid, as the bichloride will form an amalgam with them. — *London Med. Record*.

EXTIRPATION OF THE LUNGS.—We find in the Lisbon *Correio Medico* the results of numerous experiments made by Dr. Biondi on sheep, dogs and cats. Partial extirpations, and amongst others that of both apices, were all followed by cure, while

total extirpation of one lung was successful in about 50 per cent. of the cases.

A SUGGESTION FOR THE EASY APPLICATION OF THE MIDWIFERY FORCEPS.—One of the chief minor objections to the use of the forceps is the fuss and trouble necessary to place the patient, already much exhausted and worried, in the orthodox position close to the edge of the bed, and, when so placed, patients frequently complain of feeling unsafe, and as if in danger of falling.

Let the patient lie in the ordinary position on her side, and at a reasonable distance from the edge of the bed, then let the upper blade be introduced as a lower blade, and then passed posteriorly round the head of the child into its proper position as the upper blade. When this is accomplished, the lower blade may be introduced in the usual manner, and the two handles locked. No force must be used, but the handle of the forceps manipulated as gently as that of a catheter when being introduced into the male bladder. I have applied the forceps in this manner more than twenty times in the last three years without any difficulty, and without causing any injury to the head or face of the child.

In teaching the use of the forceps, I think too little is said as to the direction in which the force should be applied after the head has reached the perineum, and when it is considered wise or justifiable to terminate the labor with the help of the forceps. I believe that the force should be applied anteriorly, in a curved direction, terminating in a line almost parallel with the abdomen of the patient; in fact, in the same direction in which one might imagine that the woman herself would pull if attempting self-delivery with the forceps. Were more attention paid to this point, I am convinced that many perinae which are now lacerated would escape uninjured. — Henry Cribb, in the *Brit. Med. Journal*.

MISCELLANY.

THE TRANSMISSION OF CHOLERA BY RAILWAY TRAVEL.—The Lyons *Société nationale de médecine*, as we learn from the "Gazette hebdomadaire de médecine et de chirurgie," has recommended the enforcement of the following rules for preventing the transmission of cholera by railway travel in France:

1. The Mediterranean system shall at once be divided into two sections; that of the contaminated districts, and that of the non-contaminated districts. The point of division between them shall be that express station which, being situated in the non-infected district, is nearest the boundary.

2. Each of these systems shall have special cars, which shall not pass the point of division under any circumstances. The point of division shall be the place of transfer of all passengers leaving or entering the infected zone.

3. Passengers coming from the infected district shall be conveyed in cars reserved exclusively for them. These cars shall be placed at the rear of the train. The cars at the head of the train shall be reserved exclusively for way-passengers. Passengers of the two classes shall be strictly prevented from entering the cars which are not intended for them.

4. When the terminus is reached, the cars that have transported passengers from the district shall immediately be disinfected.

5. Baggage from the infected district shall be disinfected *en route* by fumigation with sulphur burned in stationary pans in baggage-cars.

6. Baggage-cars which are not transferred shall, in addition to the continuous sulphur fumigation on the way, be disinfected outside, at the point of division, with a solution of sublimed chloride of zinc or some other powerful disinfectant.

7. Hand baggage shall likewise be disinfected, at the point of division, by exposure to the fumes of sulphur for at least twenty minutes.

8. The baggage of a passenger attacked with cholera, or who has died of the disease *in transitu*, shall, on the arrival of the train, be subjected to a special and more thorough disinfection.—*New York Medical Journal*.

THE *North American Review* for August contains an article by Justice James V. Campbell on "The Encroachments of Capital," which will command the serious attention of all readers. Richard A. Proctor treats of "The Origin of Comets," and succeeds in presenting that difficult subject in a light so clear that persons who have little or no acquaintance with astronomy can follow his argument. "Are we a Nation of Rascals?" is the startling title of an

article by John F. Hume, who shows that states, counties and municipalities in the United States have already formally repudiated, or defaulted in the payment of interest on, an amount of bonds and other obligations equal to the sum of the national debt. Judge Edward C. Loring finds "A Drift Toward Centralization" in the recent judgement of the United States Supreme Court on the power of the Federal Government to issue paper money, and in the opinion of the minority of the same court in the suit for the Arlington property.

A DENTIST'S SOLICITUDE.—*Lyon Medical* tells the following story: A dentist is extracting a molar. "Don't cry out like that," he says to the patient. "You suffer at seeing me suffer," replies the patient. "No, I'm speaking on account of the neighbors." "Does it disturb them?" "If that were all! But it takes away their confidence."

WE have received a beautiful picture of the Southern Exposition, which opens at Louisville, Ky., Aug 16th, and continues until Oct. 25th. The view is of the main building, which is one of the largest Exposition buildings ever erected. It covers thirteen acres of ground, and will be lighted throughout by five thousand electric lights.

ERROR IN DIAGNOSIS.—The *New York Star* describes an attack by a goat on a policeman, and says the man's piteous cries would have drawn tears from the eye of a darning needle. The trouble all grew out of the officer mistaking the butt end of the animal.

THE classical editor of the *Southern Clinic* advocates the use of Latin only in prescription writing. He, therefore, in prescribing Allcock's porous plaster, would write: R.—Omnes penis emplastrum perforata.

Bibliography.

A MANUAL OF MEDICAL JURISPRUDENCE.⁽¹⁾

From his very large experience in medico-legal cases in which the nervous

1 A Manual of Medical Jurisprudence, with Special Reference to Diseases and Injuries of the Nervous System. By Allan McLane Hamilton, M.D. Birmingham & Co. Pp. 386.

system is the real or supposed seat of morbid changes, the writer of this volume is justly entitled to rank among recognized authorities in the special field of medical jurisprudence. Alike interesting and important to the medical and legal professions, this volume in connection with the individual diseases of the nervous system records over seventy-five cases from actual observation, which, as reference cases in courts of law, will doubtless often be quoted. The scope of the work can be best indicated by enumerating the chapters, which are upon: 1. Insanity; 2. Its Medico-Legal Relations; 3. Hysteroid Conditions and Feigned Diseases; 4. Epilepsy; 5. Alcoholism; 6. Suicide; 7. Cranial Injuries; 8. Spinal Injuries.

In connection with these various headings the various forms of insanity, with tests of sanity, senile changes, aphonia, cerebral softening, abscess, testamentary capacity, legal responsibility, etc., etc., are discussed in a most concise and lucid manner. The index at the end of the volume is very complete.

AUSCULTATION, PERCUSSION AND URINALYSIS.⁽¹⁾

The preface to this little book contains the statement that its *raison d'être* was a demand for a work on physical diagnosis for the use of students, where the main points are briefly and plainly expressed. Such is doubtless the demand in Michigan, but Ohio has been abundantly supplied with such works. For briefness the book is a success; but for clearness, it cannot boast. Although it contains much information, many of the terms are obscure and rather loosely applied; while the definitions are in many instances confusing, because too incomplete.

The chapter on "Urinalysis", by W. H. Rouse, M.D., Ph.C., exhibits much greater care in its preparation, and is a redeeming feature. The various chemical tests and microscopic examinations are given with great precision.

Taken as a whole, the scope of the work

² An Epitome of the Physical Signs of the Heart, Lung, Liver, Kidney and Spleen in Health and Disease. Edited by C. Henri Leonard, A.M., M.D., Professor of Medical and Surgical Diseases of Women and Clinical Gynecology, Michigan College of Medicine, Detroit. Illustrated Medical Journal Co., Detroit, Mich. By mail, \$1.00.

is a wide one, and we only regret that more space was not given to it. J.M.F.

HEALTH HINTS FOR TRAVELERS.⁽³⁾

The author has traveled, and gives us the benefit of his experience. He tells us how to pack up and what to pack. He tells us how to eat, drink and bathe; and how not to do them. Then a few remarks on the weather—how to keep deliciously cool in the most horribly hot weather. Next we are told how to travel; by rail, by foot, or by sea; how to avoid sickness, and how to treat it; and how to take care of the baby. We are told where and how to travel for health; and where the largest and the greatest number of mosquitoes, fleas, bedbugs, and other domestic articles may be found. After referring in brief to the methods of escape from a number of illnesses, among them toothache, earache, nosebleed and dizziness, or of their treatment when contracted, the volume closes with a few suggestions about medicines. And here we are told that paregoric contains one grain of opium in each fluid ounce—referring, no doubt to the paregoric found in the "dispensing bottle" of our druggists. J.M.F.

EXCESSIVE VENERY, MASTURBATION AND CONTINENCE.⁽⁴⁾

"A monument to the depravity of human nature!" might well be the inscription of this volume. But it is the human nature, not the volume, that is at fault. While such vices exist, the medical profession cannot be too much on the alert in regard to the victims of them; and if, as is stated, one half of the human race is to a greater or less degree guilty of such practices, we cannot be too careful in the examination of our patients or too suspicious of them when they exhibit symptoms indicating venereal excess.

It must be with a deep sense of duty that an author can occupy himself with such a task; and we feel that our author is to be

³ By John C. Sundberg, M.D. Philadelphia: D. G. Brinton. 1884.

⁴ The Etiology, Pathology and Treatment of the Diseases resulting from Venereal Excesses, Masturbation and Continence. By Joseph W. Howe, M.D., author of "Emergencies", "The Breath", "Winter Homes for Invalids"; Late Professor of Clinical Surgery in Bellevue Hospital Medical College, Fellow of New York Academy of Medicine, etc. Birmingham & Co., New York and London. 1884.

complimented on the manner in which he has accomplished the duty. It is necessary, in a book of this kind, in order to avoid the charge of exaggeration, as well as to illustrate statements, that some very loathsome cases shall be narrated. With some the tendency seems to be that of rather more than proving the point, but in the volume before us a great deal of discretion is manifested in the narration as well as in the selection of cases.

The volume is a summary of a course of lectures delivered in the Medical Department of the University of New York, and is based not only upon the experience in private and hospital practice, but also on a review of the European and American authorities. After sketching briefly the anatomy and physiology of the generative organs, the author enters fully into the consideration of the various excesses, the diseases they entail and the appropriate treatment. The last chapter is an epitome of the treatments advocated by Gross, Van Buren, Keyes, Hamilton, Post, Bartholow, Hutchinson, McGraw, Acton, Grant, Humphrey and others. Although rather extreme in his views on some of the questions involved, the author is very conserva-

tive in his treatment. There are few volumes that will so well repay the reader who has not given attention to the class of diseases with which it deals. J. M. F.

PROCEEDINGS OF SANITARY CONVENTION (INDIANA). (4)

There were two very inconsistent features of the meeting of which this pamphlet is a report. One is the fact that the meeting was a small one and adjourned indefinitely, after a session of one day, with the anticipation of a more complete organization in the future. The other was the fact that nine interesting contributions were read on as many important sanitary subjects.

Ninety-five octavo pages are occupied by the report, including an article by the Hon. Erastus Brooks, of New York, on "What the State Owes the People."

Sanitary societies have become a necessity, and it is to be hoped that the organization in Indiana may long continue the work it has undertaken, and that the sessions in future may be more largely attended than the last. J. M. F.

5 Held under the auspices of the State and Local Boards of Health at Anderson, Ind., April 24, 1884.

THE ANTI-SEPTIC METHOD OF DR. DÉCLAT.

Syrup of Nascent Phenic Acid (Syrupus acidi phenici nascenti "Déclat"). $C_{12}H_{10}O_2$.

A tablespoonful contains nascent phenic acid C. P. gr. ij-ss. Dose for adults, f 3 ss. q. 3 hr. In Malaria, for Mucous Membrane, for Bronchitis, Scarlet Fever, as "Anti-epidemic."

Syrup of Sulpho-phenique (Syrupus sulpho-phenicus "Déclat.") $NH_3, C_{12}H_6O_2, HS$.

A tablespoonful contains sulph. hydro. phenatis ammoniz gr. ij-ss. Dose for adults, f 3 ss. t. i. d. to f 3 ss. q. 4 hr. Chronic Coughs, Catarrh, Asthma, Rheumatism, Skin Diseases.

Syrup of Ammonia Phenate (Syrupus ammoniæ phenatis "Déclat").— $NH_3, C_{12}H_6O_2$.

A tablespoonful contains ammonia phenate gr. ij-ss, tr. Thebaic, wss. Dose for adults, f 3 ss. q. 3 hr. Influenza, Croup, all Fevers, Acute Forms of Disease, Paroxysms of Asthma.

Syrup of Iodo-phenique (Syrupus Iodo-phenicus "Déclat").

A tablespoonful contains iod. metal. gr. i-ss; potass. iod. gr. s-ss; acid. phenic. nasc. gr. s-ss. Dose for adults, f 3 ss. t. i. d. Glandular Enlargements, Tumors, Ulcerations, Scrofula, Syphilitic Cephalgia, Ostealgia.

Phenated Cod-Liver Oil (Oleum morrhue phenatum "Déclat").

Specially prepared from fresh cod-livers on the Norwegian coast. A tablespoonful contains pure nascent phenic acid gr. ij-ss. Dose for adults, f 3 ii. t. i. d. In Consumption, for all affections of the Lungs, Anti-Septic Tonic.

Glyco-phenique (Glyco-phenica "Déclat"), for external use, and for dispensing Phenic Acid C. P.

A 10 % solution of nascent phenic acid C. P. in an aqueous dilution of glycerine C. P. For Gargle, Burns, Moist Inhalation, Vaginal Injections, Anti-Septic Toilet, etc.

Anti-Septic Syrup for Whooping Cough (Syrupus ammonia-phenicus compositus pro pertussu "Déclat").

A teaspoonful contains ammonia phenate gr. i-ss. Dose, f 3 iij to f 3 xxx., according to age. This compound destroys completely and rapidly the particular germ of whooping-cough.

Hypodermic Injections of Nascent Phenic Acid, Sulpho-Phenique, Ammonia Phenate and Iodo-Phenique, all at 2 %.

The above combinations of phenic acid are also prepared with a non-saccharine base for diabetic patients, and for those to whom sugar is objectionable.

Hypodermic Syringe (Dr. Déclat's) with finger bearings, a needles, graduated, holds 80 minims.



The Déclat Man'g Co.,

169 & 171 Broadway,

New York.

P. O. Box 1129,

There is also a concentrated solution of ter-phenate of ammonia, for yellow fever and tropical fevers.

Emanator, with iodinated Phenic acid C. P. (for dry inhalation.)

Pamphlet, giving further particulars, mailed free on application.

Original Articles.

THE CONSERVATIVE FACTOR IN MINOR GYNECOLOGICAL PRACTICE.

By H. R. BIGELOW, Washington, D. C.

It does not follow that because a woman has a disordered condition of the sexual apparatus, that all her symptoms are incident to such local derangement. A gynecologist is intelligent in proportion to the wideness of the range of his knowledge and acuteness of observation. A good specialist in the diseases of women must be a good general practitioner, otherwise he will lose sight of intercurrent disorders in his concentration of attention to one suffering organ alone. The head may ache, the stomach may be rebellious, the heart irregular, the liver and bowels inactive, coincident with uterine and ovarian displacements or disease, but it does not follow as a necessary sequence that they will improve under a merely local treatment. The formidable array of ingenious devices forced upon suffering women for the replacement of a dislocated uterus, is simply a makeshift of ignorance, or the designing wiles of the evil one, as a general rule. I abjure pessaries. As mechanical supports they are faulty in structure and incomplete in action. The theory of their use seems to me to be incompatible with sound anatomical and physiological knowledge. They create irritation of the uterus, vagina, rectum, and bladder. They destroy the inherent constrictive properties of the vaginal wall, which normally act as a support. They foster constipation by narrowing the lumen of the lower bowel, so that impacted feces almost always accompany their use. In prolapses they have been of the most service, but even here they can never effect a cure. Much better results are obtained from the shortening of the ligaments, or from medicated tampons. In acute flexions I cannot conceive of any possible service that may be derived from the use of the pessary. In backward displacements the postural treatment, combined with tampons, has in my hands been immeasurably more satisfactory. A foreign body always acts as an irritant, and to this there is no exception. A highly nervous woman cannot tolerate the presence of a pessary. It is sure sooner or later to set up irritation, and to engender a train of reflex symptoms of greater or less gravity. It ap-

pears to me that the mistake is by no means an uncommon one, to relegate to a suffering uterus or ovary the many symptoms in the make-up of the history of women who seek the advice of the physician for many of the anomalous aches and pains to which they are subject. Immediate local interference creates embarrassment, nervous irritation and alarm in a system already exhausted by overwork, mental or physical, or by the strain of domestic routine. The sexual disorder is but one manifestation in the list of the many that are racking the woman's constitution. She needs rest, surcease from anxiety, electricity and massage when indicated; Turkish baths, perhaps, if the skin be inactive, dry, yellow, and harsh; nitrogenized food, good hygienic surroundings, and congenial society. When the nervousness has diminished with the general restoration to bodily health, which will surely supervene upon the removal of the circumstances engendering it, and when that measure of entire confidence, a prerequisite of success, shall be established from the daily visits of the physician, it will be time enough to institute local treatment. Not only will this be the more opportune time, but ultimate success will more surely result upon this period of waiting than if we commence at once an examination when the patient is broken down in health and almost hysterical. If the woman be run down, pale and thin, if she is inclined to cry without provocation, if she is unable to concentrate her mind upon her work, and starts without sufficient cause; if she is constipated and dyspeptic, with marked anorexy, put her to bed, and let her realize the euthanasia of absolute bodily and mental rest, a rest which has perhaps been unknown to her for years. Feed her at regular intervals, especially in the night. Give her the general Faradic current and massage, overcome the dyspepsia by a well regulated diet, and by fifteen grain doses of lactopeptine if needed. Give her general tonics, Hoff's malt imported by Eisner, a bottle per diem, will serve an admirable purpose. The constitutional disturbance is not entirely a matter of the uterus. It has originated in her environment. Set the patient's mind at rest, build her up, and then begin with special examination. If we reverse the order, we simply protract and intensify the generally prostrate condition of the patient.

Any carbolic acid in the market, even Calvert's No. 1, contains more or less of a

poisonous and highly irritant body, cresylic acid, as well as rosacic acid and rosaniline. In 1871 Dr. Declat of Paris commenced a series of experiments which resulted in the discovery of the pure and nascent phenic acid bearing his name, which is chemically pure, which does not change into rosacic acid and rosaniline on exposure to air, light and moisture. This a valuable addition to our materia medica. The dissatisfaction which has so often found expression in the medical journals by physicians has in the main been due to the impurity of the article used. I have used Declat's pure nascent phenic acid, which is combined in its nascent state with a deoxydizing base, very freely and always satisfactorily. An article on this subject which appeared in the *New York Medical Journal* of March 20 1884, lent an additional courage to its internal administration, and I have seen forty grains taken at once without any deleterious effect following upon such heroic dosage. I am in the habit of using glyco-phenic, which is a ten per cent solution, in my office practice for all disinfecting purposes. In leucorrhœa I either spray the vagina with it, or saturate a cotton tampon with it and allow it to remain *in situ* for two or three days. As I rarely if ever make use of a pessary, but always of a tampon, I very frequently use this preparation as a disinfectant. At other times, especially if there be ovarian irritation, I use a mixture of iodoform, eucalyptus globulus and glycerine. Pulv. tannin, or the glycerite of tannic acid is valuable when we wish to excite the action of the vaginal walls, so that they themselves may be made to act as a pessary. I have used hypodermic injections of phenic acid in puerperal septicemia, alternately with phenate of ammonia as an antipyretic; in enlarged scrofulous glands, though here it is better to use iodo-phenique; in one case of a small subperitoneal myofibroma of the uterus, and in one case of malaria, which happened to a patient at a time when I was treating her for uterine displacement. I have never had an instance of resultant abscess, and, if the needle is properly used, there will be no pain. Not infrequently it has been my habit to prescribe glyco-phenique as a daily vaginal wash for women who complain of a troublesome ichorous leucorrhœa, and it has always met and conquered the indications which called forth the prescription. I suppose there can be no doubt of the value of pure carbolic acid in the light

of recent physiological investigation, and the impetus given to pathological studies. The idea of a *contagium vivum*, suggested by Buhl in 1877, has permeated all recent investigations into the cause of diseased processes. Micrococci are found to be the probable exciting factors in the etiology of tuberculosis, catarrh, cholera, malaria, and other pathological conditions.

Blood poisoning of child-bearing women, which is due to degenerative changes, can be relegated to the same heading. It would seem to be a natural outcome of these more recent advances into the "causes of disease" for our therapeutics to assume a new and more definite shape. The happy-go-lucky plan of the past, an outgrowth of empiricism and superstition, is giving away to scientific medication based upon accurate diagnosis and a thorough knowledge of pathology. The intellectual use of pure carbolic acid will not materially affect either the blood or the kidneys, certainly not injuriously. If Koch's views be accepted as proven constants, then the treatment of these diseases will probably be an antiseptic one. Certainly in those cases in which I have made use of it, even before the publication of the later theories, I had every reason to congratulate myself upon the results. I am sure that one case of phthisis in a lady under my care received permanent benefit from the hypodermic use of phenic acid joined to its internal administration. Iodo-phenique (which contains in each tablespoonful, iod. metal. gr. 1-14, potass. iod. gr. 3-14, acid. phenic. nasc. gr. 3-11) is a valuable alternative, and has stood me in good stead in scrofulous patients. Do not be in a hurry in gynecology. It is far better to take months, or even years, in conservative intellectual treatment, if in the end a larger percentage of comfort, if not an actual cure, shall result, than to subject the patient to the embarrassment of frequent examination, to the discomfort of wearing an irritating mechanical contrivance, which in the end may accomplish nothing, or to the primary surgical operation, always attended with risk, which deprives her of an integral part of her sexual make-up, and which may or may not relieve her. What is needed is *strict* attention to *detail*, good, digestible food in regular and sufficient quantity, a well-regulated alimentary tract, with mental and physical rest. Strict surveillance should

be kept over each, even the most insignificant, act of the woman's daily life. Little things, ordinarily so considered, should be made of large importance to her, since the little things go to make the big aches and pains. Do not assume for a moment that because the patient has an intractable uterus that her dyspepsia may not be entirely of separate origin, or that because she has ovarian irritation she may not have cardiac irritability or nervous exaltation depending upon other distinct causes. Women would rather believe in the existence of a disease in any other part of the body than to be convinced of their having any uterine trouble. The whole question with them is hydra-headed. They cannot realize that uterine displacements are ever *cured* (and how many are permanently cured), since so many of their friends have suffered similarly and for long periods of time. Slight conditions of displacement do not need local interference, unless they occasion grave discomfort or give rise to serious symptoms. We only make local and general manifestations worse by meddlesome examination, especially in unmarried women. Try a general plan of treatment first, and see that even the most minute injunctions are faithfully observed. Look to the details of dress, see about the shoes with reference to high heels; study the habits of the patient, the hours she keeps, the books she reads, the food she eats; regulate her physical life upon sound hygienic rules. Her uterus ought not to suffer any more than her liver if she exert ordinary care. The ant-hill only becomes a mountain in the eyes of the egoistic specialist. The true gynecologist will never allow his individual prejudices to run away with his cool-headed judgment.

A NEW DROP - BOTTLE.

By DAVID DEBECK, M. D.

Assistant to the Chair of Ophthalmology, Medical College of Ohio.

I am in receipt, from E. Wilfert, pharmacist, of this city, of a little dropping-bottle, which meets a want, which has, hitherto, never been filled.

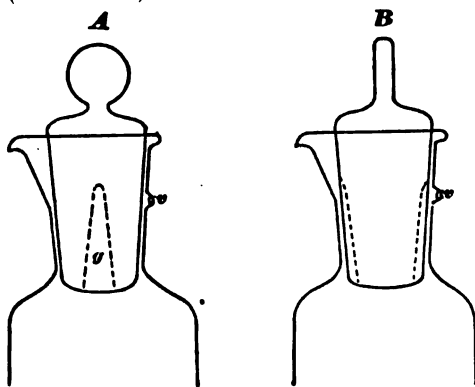
It is a glass-stoppered bottle, the peculiar mechanism of which can be understood from the cuts, A. and B.

The principal is that of a spigot.

The cork is provided with two grooves (g. shown by dotted line) on opposite faces the

neck is provided with a lip, and a small opening or vent (v.) on opposite sides.

A. shows the bottle closed, perfectly tight. The cork is turned 90° and one groove communicates with the vent (v.) allowing the admission of air, while the other groove communicates with the groove of the lip, allowing of the slow escape of the drops (shown in B).



The little contrivance works with almost mathematical nicety.

This bottle will be of great service to oculists especially, prescribing atropine, eserine and collyria; and to physicians prescribing such remedies as laudanum, Fowler's solution, etc.,

Made in quantities the cost need be no great addition to a prescription; certainly not more than the ordinary clumsy droppers now in vogue.

A CASE OF FRACTURE OF THE SKULL.

O. D. NORTON, JR., M. D.

A. B. male, white, age 47, married well developed and nourished, always enjoyed good health, was struck in the forehead by a fragment of a bursting Emery Wheel. The wheel was nine inches in diameter and three-eighths of an inch in thickness.

The wound was an oblique cut two inches in length similar in appearance to having been made by the edge of an axe, it was situated below the frontal eminence and an inch to the right of the median line, penetrating both tables.

The forehead was protected by a silk cap, at the time. No unconsciousness followed the blow. The wound was infiltrated with fine emery, and in the center there was noticed a pulsating spot about the size of a split pea.

An incision was made at right angle to the wound of the same length, and the four flaps dissected back.

Bone forceps and elevator were used and the opening enlarged to near the size of a silver twenty cent piece. The inner table was found to be badly splintered and a number of fragments were removed.

The rim of the bone was smoothed with a lenticular knife, the wound cleansed of emery and three of the flaps approximated by a single silk suture.

The operation was performed without the use of anaesthetics. The patient making no resistance nor any complaint.

Cold applications were made to the wound and he was directed to lie on his side so as to have as much drainage by gravity as possible. There was but slight hemorrhage, later a purulent discharge of a healthy nature, very slight if any headache. No medication except an occasional saline cathartic, patient kept on a strict diet of oatmeal porridge for eight days.

Ten days after accident was allowed to return to his home in the eastern part of the State. At this time the lips of the wound had been approximated by adhesive straps. Pulsations in the center of the wound still noticeable; was directed to keep it covered.

Patient returned three weeks after, has had no trouble since, an examination showed a granulating surface in the center of the depression.

An attempt was made at skin grafting, this proved a failure. The wound was then filled with boracic acid for several days when it skinned over. Patient returned to his work has had no trouble since.

Correspondence.

"THORACENTESIS."

Editors Lancet and Clinic:

In your issue of July 12th, 1884, appears an article entitled "Thoracentesis—Three Gallons of Pus removed at One Sitting," by Dr. W. S. Hoy, of Point Pleasant, W. Va., which deserves criticism.

There seems nothing new or novel about the case narrated by Dr. Hoy, save the "three gallons of pus" (693 cubic inches) in left thoracic cavity (?). Admitting, however, the possibility of this immense collection of matter in the left thoracic cavity, it renders the course pursued by Dr. Hoy the more conspicuously stupid.

Our present knowledge of physical diagnosis should certainly render the recognition of such a volume of matter in the thoracic cavity easily possible. Then, the early and intelligent use of the aspirator would dispel all doubt and render even error impossible.

To attend a patient for ten days and have a suspicion that there is "abscess in the lung" and fail to use the means which a progressive profession places in his hands for the purpose of facilitating diagnosis is gross, if not criminal, negligence.

I cannot conceive any reasonable plea that Dr. Hoy could present in extenuation of his delay in making a positive diagnosis.

On the 15th of June he was sent for in great haste, and, judging from his own story, he found his patient in *articulo mortis* and informed the family that "death was certain in a few hours." And in this extremity he asked the permission of the family to "satisfy himself that pus was present to an enormous degree, *before he died*," which privilege was granted.

He then proceeded to perform what he is pleased to call a "novel surgical operation," and, judging from his own description to me, the operation was somewhat novel. He says: "I cut down to the ribs on the left side," etc. As there are twelve ribs on a side and he fails to say how many ribs he "cut down to," I am made to understand he cut down to twelve ribs, and surely the necessity of such an operative measure is novel to me. And if, as appears from the paper, his only object in performing this "novel surgical operation" was to satisfy himself of the presence of pus, he could have had this curiosity gratified *post mortem*. Happily, however, the result even at this late hour surpassed his hopes. The *vis medicatrix nature* was equal to the emergency and snatched the patient from the very jaws of death, and, notwithstanding the "cool and deliberate" reasoning of Drs. Campbell and Hoy to the contrary, the boy *will* "pull through."

Dr. Hoy's indecision imposed upon his patient, Mr. I. Curry, ten days of unnecessary suffering, which, but for the very hardy and rugged constitution of the patient, would have cost him his life.

Indecision and temerity have no place in the sick-room, but careful reasoning *a priori* or *posteriori* with a full knowledge of all the means which science places at our command as valuable auxiliaries for the

recognition of disease, even through the hidden recesses of the body, will alone make us reliable practitioners of the healing art.

Nemo mortalium omnibus sapit, is a truth forced upon every one at times. But, in no profession more than medicine does the *morale* "Be sure you are right and then go ahead" demand more constant observance.

In answer to Dr. Hoy's question I will say that his operation with all its "novel" features is in effect nothing more than thoracentesis and has been performed multiplied thousands of times. As to the "greatest quantity of pus removed at one sitting," all are ready to admit that *three gallons* is a very large quantity to remove at one time, I assure you.

Respectfully,

N. F. SCHWARTZ, M.D.

Canal Dover, O., July 24, 1884.

YELLOW OXIDE SALVE.

Arroyo Grande, Cal.,

W. W. SEELY, M. D.

Dear Doctor—Knowing one reason why the Yellow Oxide Salve is not more generally adopted by the Profession, is the mess the druggist make of it as a rule in making up, I take the liberty of offering a suggestion. Lately I found out by accident that by incorporating the mercury into the *White Vaseline* made by the Cheeseboro Mfg. Co., that the irritation is reduced to zero, if I may so express it.

Yours, E. L. PAULDING.

[Judging by the immense quantities sold one would think the general profession had turned oculists, and were treating all patients with Yellow Oxide Salve.—TANGEMANN.]

RESPIRATION OF LEAVES IN DARKNESS.

—MM. Beaunis and Mangin, in a note to the Académie des Sciences, "On the Respiration of Leaves in Darkness," state that the belief, that more carbonic acid is exhaled by leaves, when temperature is high than when it is low, is an error. According to their researches, the relation between the quantity of oxygen absorbed, and carbonic acid exhaled is constant, whatever may be the temperature.—*British Medical Journal*.

CERIUM valerianate has been suggested as a substitute for the oxalate, particularly as a remedy for the vomiting of pregnancy.

THE CINCINNATI LANCET AND CLINIC

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SUBSCRIBERS TO THE LANCET AND CLINIC who have not already remitted their subscription will confer a favor on the publisher by promptly doing so.

Cincinnati, August 2, 1884.

The Week.

THE CINCINNATI BOARD OF HEALTH.—

A year ago the Common Council of Cincinnati elected a city Board of Health, constituted of five saloon keepers and one quack doctor. In the very natural course of events, this Board elected a health officer who was not a physician, and without any special qualifications for the place beyond political partizanship. This gentleman has no doubt done the best he could, but unfortunately his knowledge of many of the duties pertaining to his office is exceedingly limited. For instance, he is absolutely ignorant as to the nomenclature of diseases, and of the materia medica. He cannot even tell if a burial permit is or is not properly made out, or whether a druggist has charged too much for filling outdoor poor prescriptions.

Lately it was the misfortune of one of our best known physicians to have two children attacked with scarlatina. He immediately informed the health officer of the fact, and that he had stopped his well children from going to school, and had isolated his family as perfectly as possible. The health officer said to the doctor that it was necessary to refer the situation to Mr. Collins, now registrar of Vital Statistics, formerly nurse in

the Cincinnati Hospital, for information as to what ought to be done in such cases.

Mr. Collins may be a very good clerk, and a very competent nurse, but he has had no special education that would fit him to act as instructor of thoroughly educated physicians.

During the past year the health officer, with commendable ambition, has endeavored to show the efficiency of his administration by the publication of a very low rate of mortality. There has been no prevalence of serious epidemic disease during that time. However, we have very good reason to believe that his reports are incorrect, and that he does not obtain complete returns of the deaths in the city.

The term of service of two members of the Health Board recently expired. The Common Council reelected the saloon keeper, and in place of the quack doctor elected a city contractor, so that the Board is now constituted of five saloonists and one street paver.

In all this business, except in the interest of the fair fame of our city, the medical profession are absolutely indifferent. They understand and appreciate the situation, and can endure this sort of municipal mismanagement quite as well as the average councilman.

The time is coming and the day is not far distant when an appeal will be made for a change of Health Board officials, and that appeal will not come from the medical profession, but from the people who are even now threatened with the gaunt cholera spectre.

Recently the Health Officer was interviewed by a reporter of the daily press, as to the cholera and what should be done for a patient suffering from that disease. Without the fear of death before his eyes he promptly named over the remedies he would use. Mr. Collins should go with him as consultant.

RECTAL ANÆSTHESIA. — The procedure

of producing narcosis with ether per rectum, although apparently new, is not so new as it at first seemed to be. Pirogoff had employed it more than forty years ago. He wrote a monograph entitled "*Recherches pratiques et physiologiques sur l'etherisation*," in which is found a whole chapter on rectal etherization, with cuts illustrating the instrument employed for its administration. It seems almost as though Pirogoff was to be robbed of the honor of introducing this method. In Kappeltre's great article on anæsthetics in Billroth's *Surgery*, Pirogoff's name is not mentioned. Dr. Molliere, who has recently resurrected the process, claims all the laurels. Molliere introduced the ether vapor cold, by means of a Richardson bellows, mixed with air, or placed the vessel containing the ether in hot water, causing it to boil, when the vapors are conveyed into the rectum through a soft rubber tube. The reports of Molliere in the *Lyon Medicale* are quite tempting. Narcosis is rapid, complete; there is no excitement, and the patient feels comfortable after he awakes. Quite a large number of surgeons have availed themselves of the retroversed method, and in nearly all instances the test was quite satisfactory, but we must bear in mind the usual course of new procedures and new operations.

Respiration and circulation remain astonishingly normal during narcosis, but even if the ether does not affect the mucous membrane of the bowel, it seems almost as though great care is required, because the bowels may hold so much of the vapor, which can not be removed in any manner, and the patient, though already unconscious, continues to receive more ether through the circulation. This was quite evident in a case reported by Starcke, where the patient, apparently asleep, jumped up and exclaimed, "I am bursting." The attention directed to the abdomen, Starcke found that it was distended to its utmost, nor could the superfluous

amount of the narcotic be removed. The operation was finished in a quiet manner, and the patient finally awoke (in fifty minutes), and felt comfortable.

Molliere states that 10 grm. is enough for etherization, while Starcke, in the above case, referring to the vessel with ether, found that thirty to thirty-five grm. had been consumed.

Ether injected subcutaneously excites the heart's action, but under narcosis produced per rectum, there is a slight slowing of the heart's action, but the pulse beat remains regular and full. It is to be hoped that the dose will soon be regulated, to avoid accident, otherwise, what appears to be a valuable procedure to the surgeon, may again fall into disuse before it is fully investigated.

In operations about the head, if it will come into general use, it will be a great aid to the surgeon. The oculist will undoubtedly avail himself of the immense advantages that this method offers to him.

That there will be cases where the use of ether employed in this manner is contraindicated, is quite evident, since if the bowels are inflamed, or in an irritable condition, the after results certainly would be anything but gratifying, and, therefore, there is one class of cases already where it can not be employed with safety.

It has been announced that Molliere will report his observations and experiments in full at the Congress at Copenhagen, and it is to be hoped that an effort will be made to restore to Pirogoff the honor that is due him, and give it neither to France nor Denmark. *

THE POLYCLINIC OF BERLIN informs us of the following arrangements which have been made in the interest of physicians frequenting the same:

To all courses with clinical work, six applicants only will be admitted.

If there should be more than six applicants, parallel courses will be instituted.

For the purpose of enabling our fellow physicians to acquire a more thorough education in their respective special branches, the Polyclinic of Berlin has established in each special branch the position of Assistant Physician, which position shall always be held for three months. Those who have been assistants shall, if found able, conduct the parallel courses.

As it is intended to make the Polyclinic of Berlin an international institute, and as, therefore, the courses shall be held also in foreign languages, the position of Assistant physician shall be given also to foreign physicians. (See card on page 4.)

CAMELLIA. — On account of the extreme difficulty of obtaining a reliable article of coca for medicinal purposes, Dr. Squibb advises the use of a fluid extract of tea containing a definite amount of caffeine as a substitute. His experiments lead him to say "that whenever coca or its fluid extract are indicated in therapeutics, tea or its fluid extract will be found to be a superior substitute, in doses of a little over one-third the quantity. The doses must, in all cases, be carefully adjusted to the widely differing susceptibility of different individuals. A fluid-drachm of this fluid extract of camellia will probably be found to be an average adult single dose as a restorative. But for repetition throughout the twenty-four hours, or more, it would doubtless be too large, and would produce morbid vigilance.

"In narcotic poisoning, or when it becomes necessary to interfere with or control accidental narcotism from any cause, three or four fluid-drachms, or even more, may, and should be used, proportioning the dose to the condition which is to be counteracted."

Tea thus prepared for therapeutical purposes is dispensed under the name of camellia.

CHOLERA. — The cholera seems to be abating in Toulon and Marseilles, but it is

still spreading throughout the country. Consul Mason in his report to the Secretary of State says:

"The attack of cholera has been this year far more vigorous and fatal than in the epidemic of nineteen years ago, and all present indications point to a summer of gloom and suffering for the people of Toulon and Marseilles. All that energy and liberality could perform, all that sanitary science could suggest, has been done, but the pestilence is here and defies restraint."

The present situation may be summarized as follows: The epidemic which now prevails in Marseilles and Toulon is Asiatic cholera, imported from Saigon, China, by the French transport *Parthe* to the port of Toulon. At first the disease was of a type medically classified as benign, but its malignity has increased by its further development under the influence of hot weather.

THE PREVENTION OF CHOLERA.—The International Sanitary Conference of 1874 unanimously affirmed that "the Asiatic cholera, susceptible of epidemic extension, is not developed spontaneously, except in India, and when it appears in other countries it is invariably by introduction from without." The evidence of the truth of this conclusion is overwhelming and decisive, and is admitted, we believe, by all medical men and sanitarians who have given the subject any serious thought. Moreover, when cholera spreads to other parts of the world it invariably follows the lines of travel, and it has never appeared in America unless Europe has been first affected.

With these facts before us, there is abundant evidence to prove that two things are absolutely necessary to prevent the introduction of the disease into our country, viz., *quarantine and municipal cleanliness*—by quarantine we mean such detention as will positively insure a clean ship and cargo, with non-infected passengers and baggage.

How best to secure these results are the only questions with which we have now to deal. The Government has taken the initiative by requiring the consular officers

abroad to have all vessels bound for the United States thoroughly inspected before sailing, whether from infected ports or otherwise; to refuse clean bills of health, unless so inspected, and to give timely notification by cable of the progress of the disease, and of the departure of any suspicious vessel or of emigrants from the infected districts for our shores. As a further security, the Revenue Cutter Service has been placed on guard to intercept all vessels coming to this country, and to ascertain not only whether they have clean bills of health, but also to learn whether any disease has appeared on board since they left the other side, and if they are in a good sanitary condition. The Treasury Department has also temporarily interdicted the importation of rags from all countries infected or supposed to be infected. Government quarantine stations, under the management of the Marine Hospital Service, are now open at Ship Island, Miss., Sapelo, Ga., and between the Capes in Chesapeake Bay, for the refuge of infected vessels, and the care of their diseased passengers and crews.

Quarantine, which includes disinfection, and all the procedures necessary to change an infected ship into a clean and healthy one, requires that the sick be removed to isolated hospitals, the well to comfortable barracks for observation; and the luggage of sick and well to be removed and subjected to thorough disinfection. The cargo to be discharged upon lighters, or removed to warehouses, exposed to the air, and disinfected if practicable, or destroyed if not—as in the case of fruits, etc., the vessel to be then thoroughly disinfected by the most approved methods, first having been washed out and cleansed; it is then ready to go to its dock.

Municipal cleanliness includes house-to-house inspection—back-yards, water-closets, cellars, cess-pools, and out-of-the-way places, should receive particular attention—the streets, market-houses and surroundings, must be kept clean; school-houses, factories, and other large establishments and their inmates should be included; the water-supply should be examined, and water boiled before using if found to be impure; well-water is particularly dangerous on account of its liability to receive the overflow from storm-water or from seepage, and reservoirs are not less dangerous if located so as to receive the washings from

hill-sides or ravines; water-closets and sewers should be flushed with abundance of water, the former daily, the latter two or three times a week. In the country stagnant pools must be drained, out-houses, pig-pens, and the like, kept clean, and privies disinfected daily. Personal cleanliness must be maintained, and the diet must be wholesome—fruits, if imported, should be carefully washed or peeled, and over-ripe or green fruits rejected.—*Medical News*.

SUGGESTIONS REGARDING CHOLERA, FOR THE USE OF THE PUBLIC.—The following suggestions for the use of the public, as to the treatment of early or suspicious symptoms, at seasons when cholera is threatened, or is epidemic, have been issued by the King and Queen's College of Physicians in Ireland.

The College advise no alteration in the habits of living, where these have previously been moderate and regular. All excess should be carefully avoided, especially in the use of alcoholic drinks, as it is, of noted experience, the intemperate who most certainly fall victims to the most fatal type of cholera, as of other epidemic diseases.

All food likely to cause indigestion or bowel-complaint should be carefully avoided particularly fruit in a large quantity or in an unripe, decayed, or unsound state; likewise, fish or meat when in the least tainted.

Water should be used for drinking purposes only after being boiled; and, in consequence of the possibility of milk being diluted with infective water, it likewise should be boiled before use.

Strict personal cleanliness should be practiced, and the clothing should be adapted to the season and weather.

All debilitating causes should be avoided, such as excessive and long continued fatigue and fasting; overcrowding; exposure to moist stagnant air, or to air loaded with organic effluvia.

During the prevalence of cholera, any person affected by any of the following complaints should at once obtain medical advice; 1, Diarrhea, or looseness of the bowels; 2, Vomiting or sickness of the stomach; 3, Pains in the stomach or bowels; 4, Pains or cramps in the legs. While such aid is being obtained, the patient should be put to bed immediately, and warmth should be encouraged by the

application of heat to the body and limbs. Also, in case of sickness of stomach, a large mustard poultice should be applied over the abdomen. In the event of cramps ensuing, diligent rubbing of the limbs should be resorted to.

Hot-brandy punch should be administered in small and repeated doses, and the diet should be restricted to rice, milk flavored with cinnamon and brandy, or arrow-root prepared with milk or port wine.

Should relief not be shortly obtained, and the looseness of the bowels continue, ten grains of aromatic chalk-powder with opium, or twenty drops of dilute sulphuric acid, with five drops of laudanum, should be administered in a tablespoonful of water, to which a little brandy may be added. This dose, which is intended for an adult, may be repeated every hour for three doses.

The discharge from the bowels should be disinfected, and disposed of as quickly as possible. A wineglassful of the following disinfectant mixture should be poured into the vessels used by the patient, namely, Common sulphate of iron (green copperas,) one ounce; carbolic acid, a quarter of an ounce; water, twenty fluid ounces; or one imperial pint.

Infected bedding, and all articles of clothing worn by the sick, should be destroyed by fire.—*British Medical Journal*.

PRACTICAL SANITATION—There is a mistaken idea, which prevails quite generally among housewives, that a room to be attractive and comfortable in summer must be darkened as much as possible, every ray of sunlight being rigorously shut out. That many rooms are thus made extremely damp and unhealthy seems not to occur to these careful matrons, who regard with horror the possible fading or soiling of their delicate upholstery fabrics. Rooms should be thoroughly aired daily at all seasons of the year, and although the noonday glare of a summer sun may be tempered and obscured, its morning rays should be admitted when it is possible until the room is beyond the suspicion of a taint of damp or impure air. Bed-rooms and bath-rooms should receive special care in this direction, and where they cannot have the direct rays of the sun, they can have, during a part of the day, plenty of light and air. It is absolutely impossible to keep the air of a dark, un-ventilated bath-room pure and sweet, and

such a room, as it is found in too many city houses, is a most efficient promoter of disease. Many of the maladies which are incidents to the summer season may be almost entirely prevented by a faithful and unremitting attention to cleanliness, and the avoidance of dampness, darkness and impure air. Another matter, which demands reiteration in this connection, is the disposal of garbage from the kitchen. No housewife who allows such refuse to be thrown about the alley to decompose while it awaits a tardy scavenger, can lay any claim to neatness, honesty or conscience. The fact that she does not keep herself informed of the doings of servants and scavenger in this matter is more her condemnation than her excuse. She is under obligations to know whether her carelessness and inattention are endangering the lives of her own and her neighbors' families, and a confession of ignorance on the subject is still more culpable. The mysterious providence on which people are so ready to throw the burden of their own willful ignorance, when its results are fatal, is often to be found in their own cellars and alleys, and its workings are sometimes strongly in the manner of murder and suicide. There is one sure way of avoiding all danger from decaying refuse matter. Burn it at once! In a family of ordinary size this can be easily done when the kitchen fire is not in use, and if the dampers are open there will be no disagreeable odor. Unless all waste can be removed immediately, some means should be devised in every household, large and small, for converting it into clean and harmless ashes. Servants should be taught their responsibility in the matter, or they should be watched as those who hold the health of households in their hands.—*The Sanitary News*.

SUN STROKE.—Occasionally, some one, daily exposed to the sun in the heat of summer, gets an overdose of sunshine, and has an attack of sun-stroke. Sometimes the sun's heat is censured for what bad habits have induced; often however, the summer's sun strikes down sober, temperate, men. We should not be afraid of the sun. "When people allow the sun to paint their faces brown, torpid livers is less liable to paint them yellow." It is well to remember that the direct rays of the sun are not necessary to the causation of sun-stroke. Heat ex-

haustion is a better term for such cases. It may occur after soldiers have returned to their tents; after a day's work in the sun, even in the evening and night, especially when breathing a hot and impure air.

Symptoms.—Generally occurring suddenly, falling unconscious, head very hot, breathing snoring, even convulsions may precede death. Heat exhaustion comes on suddenly too; but there is no excessive heat of head and skin; pulse weak, less unconsciousness, and no snoring of the breathing. The first variety resembles apoplexy; the second, fainting. One is attended with congestion of the brain; the other with extreme prostration of the vital functions.

Causes.—Intemperance, long continued heat, especially combined with a peculiarity of atmosphere. Very few farmers are ever sun-struck; the city furnishes the great majority of the cases. This looks greatly towards an atmospheric agency, a vitiated air so acting on the system as to lessen its power of resistance—decreasing the vital energy. Fatigue is a common cause of heat exhaustion, as is also an excessive use of water.

Prevention is sufficiently indicated in the causes of sun-stroke. Those exposed to the sun during the hottest days of the year, would do well to wear a wet handkerchief on top of the head.

Treatment.—In the sun-stroke, the patient should be treated at once—simply removed to the shade. Remove the clothing as much as convenient, begin to reduce the great heat of skin with cold water gently poured on the body, or rub with pieces of ice. Keep this up till temperature of the body grows less, and some sign of returning consciousness are present. Relapses may occur, the heat again run up, and then the same treatment must be instituted at once. Obtain an action of the bowels through stimulating injections. Apply mustard to the heart, ankles and spine. Use hartshorn to the nostrils carefully, and when the patient is able to swallow, allow small quantities of brandy and water. Apply wet cloths to the head. Keep the head and shoulders elevated.

Less energetic measures are required for heat exhaustion, the demand for stimulation is greater, and brandy or ten drops of aromatic spt. of ammonia every fifteen minutes at first may be given, gradually increasing the interval. Some good advice is

given in Wilson's "The Summer and its Diseases:" "A person walking in the street is seen to totter; he sits down, and soon sinks to the earth, or he may fall at once; or a workman lets his tools drop from his hands, and in a moment falls to the ground. On examination he is found to be in a state of unconsciousness. He lies quiet, or there may be restlessness, and rarely talkative delirium; still more rarely he may be aroused for an instant by shaking or shouting in his ear." As he suggests, the discrimination of these conditions is of the greatest practical value. The man may be simply drunk; he may have a sun-stroke, which is it? A comparison of the symptoms are arranged in these columns—a different diagnosis, as called by the physicians—which will be an aid in fixing them firmly in the memory. Learn them; you know not how soon you may be the means of saving a human life.

SUN STROKE.

1. Attack sudden.
2. Unconsciousness deep for a short period. Patient may often be aroused by shouting or shaking.
3. Rapid, labored, snoring breathing.
4. Convulsions may occur, twitchings of the muscles.
5. No paralysis. (In apoplexy there is paralysis of one side or the other.)
6. Pupils alike. (Pupils uneven in apoplexy.)
7. Pulse very rapid.
8. Great heat of skin.

INTOXICATION.

1. Insensibility gradual.
2. Unconsciousness rarely complete.
3. Slow and snoring.
4. No convulsions.
5. No paralysis.
6. Pupils alike.
7. Pulse slow.
8. Skin cool.

—By C. C. Vanderbeck. M. D. Ph. D.—
Weekly Drug News.

POROUS PLASTER.—The true use of a Porous Plaster, according to a Milwaukee druggist, is "to retain the back in its proper place and let the pain crawl out through the holes."

"So you prefer my medicines to those of Dr. Pillsbury, Mrs. Mulligan?"

"Och, indade, Docthor dear, ye're a deal better than th' other ould humbug."

THE death of the distinguished ophthalmic surgeon, Professor Jager is announced from Vienna, —*British Medical Journal*.

Translations.

CHOLERA AND QUARANTINE.

[Translated from "L'univers" of July 12, 1884.]

DR. BROUARDEL, who was sent on a mission to Toulon to study cholera in company with Dr. Proust, made his report at the last meeting of the Academy of Medicine. His investigation had for its object the determination of the origin of the disease and the degree of its prevalence. He explained the cause of his hesitation at the first moment of the outbreak, claiming that the proofs as to the epidemic and contagious character of the disease were negative for the most part, and tended to throw doubt on the Asiatic origin of the malady. Then he stated why he had changed his opinion when the contagious character of the disease was fully demonstrated at the Hospitals, at Marseilles, and villages filled with refugees flying from Toulon.

Dr. Fauvel, accepted the explanation and did not doubt Dr. Brouardel's sincerity, but reproved him nevertheless for the insufficiency of the proof in which he had claimed the Toulon outbreak to have been one of Asiatic cholera. "The disease was of to mild a type to be Asiatic." "By claiming that the malady was not imported." Said he to Dr. Brouardel "you might have avoided all the measures, the enforcement of which, have paralyzed our commerce, however, in the case of Asiatic cholera, all the quarantine regulations in force nowadays are not only ridiculous but likewise injurious. Fumigation and disinfection will not stop the disease." Definitely, Dr. Fauvel claimed that the present epidemic is not one of asiatic cholera, but an outbreak of *cholera nostras* born of purely local causes and destined to extend from Toulon to Marseilles and other places. This was his opinion based upon a careful study of the facts and the progress of the epidemic.

Dr. Brouardel replied that his commission was not responsible for the measure taken against France by a number of European Governments several days before it was really concluded that the outbreak, was one of East Indian cholera.

Dr. Brouardel's remarkable report throws no light on the nature and cause of the Toulon epidemic, but, it is necessary to remark that there is much that is invisible

and mysterious in the origin of epidemics *nescio quid divinum*, sensible and tangible only by their effects, willing or unwilling, we are obliged to recognize a superior force which acts at certain times despite all human calculations and foresight.

Among the measures enforced by governments against cholera, is *quarantine*. We give the name of quarantine or sequestration, to that variety of isolation practiced on mankind and material effects when they are considered to have actually compromised the public health. Fixed in its inception to a period of forty days, this measure is enforced on vessels or on lazarets.

The Republic of Venice having, several times, been visited by the plague owing to its commercial relations with the Levant established, in 1403, an isolated hospital, situated on an Island belonging to the order of St. Augustine. The term lazaret was derived from the word leper because this disease was also known as Saint Lazarus disease, and hospitals devoted to the treatment of this malady were placed under the protection of this Saint. Other cities having commercial relations with the Levant soon imitated the example of Venice as, for instances, Genoa and Marseilles.

A great number of Sovereigns confided their quarantine management to Marseilles and the authorities of that city were accorded a certain amount of jurisdiction. Ships coming from Mediterranean ports could only enter harbor first at Marseilles and Toulon. These stringent regulations were at first only intended for Southern ports and the rules applied to the ocean ports were much less severe until the period that yellow fever appeared at St. Nazaire.

Up to 1821, there was no sanitary code applying to the whole of France, at that time Yellow Fever entered the frontiers of Southern France, and there was a great alarm and panic on the Continent of Europe. The law of March 3d, 1822 was then enacted, followed by the ordinance of August 3d, in the same year, which strengthened the preceding act and prescribed the necessary rules and regulations.

Very soon this law was fiercely attacked and Chervin especially showed himself to be a resolute adversary, as his writings were widely applauded.

The utter uselessness of the cholera quarantine of 1830 and 1832, tended to further discredit the system, and, it was soon perceived that the application of quarantine

measures created difficulties as regarded our commercial relations with the Algerian Colonies. The opposition to such sanitary methods became so strong that the Government was forced to modify the law, which was done by the royal edicts of August 18th 1847, and the decrees of August 10th 1849 and December 24th 1850. The two parties interested made reciprocal concessions, although Dr. Proust proclaimed, that the final act of the conference of 1852, in reality, abolished an efficacious quarantine, without making free ports of entry. It was soon noted as Dr. Proust had predicted, that a quarantine of from three to five days against cholera was illusory and that the lazarets, owing to their location and surroundings, afforded striking proof of their inefficacy as restrictive agents.

Finally, another conference in 1852, where delegates from different countries assembled in Paris to act for the common welfare, placed a new aspect on the question.

In 1865, on the outbreak of cholera, the French Government held a sanitary conference at Constantinople and decided on a system of restrictive measures against the dangers arising each year from the Mecca pilgrims. Their annual pilgrimages were the object of serious discussion, and it was at this time that quarantines were established upon a scientific basis. The Constantinople Conference proclaimed the good results of quarantines.

According to this conference, restrictive measure laid down in advance and duly applied in advance are less prejudicial to commerce and international relations than the panics that seize industries and commercial transactions following an invasion of cholera. It sought to show that quarantines are more beneficial the nearer they are applied to the sources of epidemic origin, and, that the starting points of contagious outbreaks were the ports in which sanitary inspections should be established.

With this quarantine system, all things (men, animals, effects, and, merchandise) are divided into different classes, according to certificates of health, which must be furnished by competent authorities at the point of departure. These health certificates make known the sanitary condition of the places which the passenger or merchandise have left, and, are turned over in France to sanitary inspectors. In foreign countries, our vessels must obtain these

health certificates or bills of Health from French Consular agents. There are two kinds of Health Bills, known as clean bills of Health and uncertain bills of Health.

The clean bill of Health is delivered to a ship and states that at the moment of departure, there are no sick and no contagious disease aboard the vessel. Such a ship is not obliged to submit to quarantine at the port of arrival, it is admitted to *free pratique*, that is to say it is at liberty to land.

The uncertain bill of Health indicates that an epidemic or contagious disease was present at the time of the vessels departure, and such ships must submit to quarantine at the port of arrival.

A suspicious bill of Health, was also thought of, but, as such a document presented no precise indications, it was dropped. In addition to bills of Health must also be mentioned the *interrogations*, that is to say the declaration of the Captain upon all incidents of the voyage bearing on questions relating to the sanitary condition of his passengers and crew.

If we look at the daily experience of lazarets and quarantines, we are at once convinced that the violations of rules are numerous, and that subordinate sanitary agents are eternally violating the very regulations they are expected to enforce, while we perceive a number of contradictory measures that are not only entirely useless but utterly absurd, we finally discover that quarantines are but relics of old popular superstition, and, have no interest in common with the public health.

As an example of this vexatious and ridiculous measure, Michel Levy cites the following, the ship "Cornelie" on which he had taken passage from Navarin, a city in the most perfect condition of health, made the voyage without a case of sickness on board, and was, nevertheless, detained at quarantine at Toulon for the space of thirty days. As Melier stated in his report on the solution of the sanitary questions submitted to the conference of 1851 "we cannot deny the exotic origin of cholera, nor can we deny that it may be imported as many facts tend to fully settle this matter, but we insist that it is utterly impossible and useless to establish quarantines against cholera, for, this pestilence follows the example of all other general epidemics and falls like a storm on the countries it attacks. Cholera comes we know not how, without even crossing intermediate countries and not

crawling nearer and nearer as many scientists would have us believe and the use of quarantines is not even rational; cholera besides seems now acclimated in Europe, and is found almost everywhere."

We conclude from this that no quarantine can prevent cholera, and that even when employed the disease passes through and over all opposing barriers, and arrives in countries in which similar types of disease already exist.

What good is there in imposing on commerce such useless restrictions? Why take so-called precautions that preserve no lives, and entail heavy mercantile losses? We may even go further and claim that quarantine, in place of preserving us from cholera, actually increases the chances favoring its invasion, by retaining passengers on vessels or in hospitals, and overcrowding instead of dispersing them.

If we refuse to admit that quarantines, properly speaking, do not prevent the entrance of cholera, and if we repel them as useless, powerless and even dangerous, we must nevertheless admit the importance of sanitary measures, viewed from a purely hygienic stand-point.

Public hygiene, well understood and properly administered, is the true preservative of the people from the pestilences that threaten mankind. It is vain to resort to isolation and sequestration to prevent contact with the contagious influence if the general rules of public cleanliness are not enforced, and the centers of corruption and infection in ships and habitations removed. These filthy spots are the real, true and all powerful agents in fermenting disease, for even although they may not cause the immediate engenderment of a malady, they favorize and propagate the disease when it is once developed. When cleanliness is present, epidemic diseases are only generated with difficulty, the type of the disease is usually mild, and it spreads very slowly.

This is rational hygiene, no quarantines against cholera, for quarantines can not prevent the disease. Clean up persons and property, ventilate and freshen all vessels, buildings and merchandise, these are the views of the English in regard to such matters, and the practice is so sensible that boards of health will make it the basis of all sanitation.

We perceive in France at the present hour that the wishes of eminent hygienists

are far from being realized, for among the preventive measures against cholera we can no longer include quarantines, which are only powerless and illusory.

As an illustration of this fact, I may mention that in 1873, when cholera prevailed in the north of Europe, ships arriving from Havre at Cherbourg were detained outside the harbor entrance at the peril of severe gales and the risk of loss, their entrance being interdicted; at the same moment *travelers by rail entered the city without trouble*. Was not this the height of absurdity?

In this age of rapid communication, of railroads and steamers, such ridiculous measures must be reformed, as they are vexatious, barbarous, and do not belong to the present century, besides, they are of no account, and serve no purpose except to ruin commerce and alarm entire populations, and prevent the spread of disease about as much as a spider's web. T.C.M.

OPIUM-SMOKING AS A THERAPEUTIC REMEDY.—At the Congress für innere Medicine, 1883, Dr. Thudicum expressed the belief that opium-smoking is a most effective remedy, and one that is unjustly disregarded in Europe. It very quickly relieves colds, catarrhs of the severest form and hay-fever. Chronic neuralgias, hemicraniae, and hyperaesthesias which have resisted large doses of quinine have been, in from three to four months, entirely cured. For the paroxysms of coughing which so harass consumptives, it is one of the most suitable and efficient remedies. The habit which remains after the remedy has done its duty, the author claims, is not to be feared, for many of the reports that are circulated in this regard are fallacious. The only patient who proved unable to throw off the habit was the victim of an incurable disease.

The best preparation of opium for the pipe is the aqueous extract of the Austrian Pharmacopœia. It is not smoked precisely as tobacco; the vapor is not simply drawn into the mouth, but it is pretty deeply inhaled. The drug must not be burned, but only the most volatile part should be converted into smoke.—*Schmidt's Jahrbücher*, June 24, 1884. J.M.F.

ECZEMA DURING CHILDHOOD.—(By Unna, *Deut. Med. Zeitung*.)—The difficulty of properly treating this subject causes

many authors to become voluminous and thereby lose sight of their subject. The author speaks of the following varieties:

First, there is the variety that looks zoster-like, found in circumscribed groups, symmetrically, on the extremities, both cheeks, and sometimes on the forehead and chin. It follows certain nerve distributions, such as the radialis; it makes its appearance suddenly, and yields to treatment without much trouble, but it recurs quite often. This variety of eczema may be mistaken for the true nervous herpes, especially the herpes labialis and progenitalis. In adult subjects the prodromal symptoms are general malaise, weakness, headache and some nausea. Sometimes its first appearance follows severe mental emotion, anger, excitement, etc. Often there exists an anæmic condition of the skin. In spite of all modern scruples on the subject of denitiation as a cause of eczema, the author maintains positively that it contributes largely to this variety. The course is usually about as follows: During the last quarter of the first year we find on both cheeks, on the chin, the dorsal surfaces of the hands, a group of papules developing, that cause considerable itching. The intervening integumentary surface is quite healthy, but, on account of the itching, the surface becomes eroded, hyperæmic and oedematous, when finally the former groups run into each other and large eczematous plaques are developed. With the proper treatment relief appears rapidly, but the probabilities are that every new process of denitiation will bring with it an attack of eczema. If this form of eczema is not thoroughly treated during the first two years of life a para typical eczematous condition will develop not so amenable to treatment, and which has no reference to the nervous system.

Here we must refer to lichen urticarius, which not infrequently leads to a nervous form of eczema which, like the cause of the disease, appears universal over the body. Lichen urticarius consists in a lot of large oedematous papules sporadically scattered over the body, and it is a pretty generally recognized fact that children suffering from this form of trouble will in later years be very much annoyed with prurigo. "I myself have a number of times witnessed the transition from lichen to a pruriginous eczema. Lichen urticarius develops into a well-defined pruriginous eczema of an

obstinate type on account of the continuous scratching as well as the hypertrophic condition of the musculo-elastic system, which is due to the continued irritation of the nervous system. The papulous eczema of childhood is very nearly related to lichen urticarius in its appearance and results.

Finally it may be mentioned that the various forms of eczema possess a general property of suddenly spreading along the course of certain fibres of nerve trunks after having been a localized condition. If we study the different forms of eczema that are brought about by internal causes we always find that the nervous form predominates, or it is at least a very prominent symptom. This then gives us a key of explanation to show the connection between eczema and diseases of some of the internal organs with the changes that occur in some of the secretions of the body as well as in the blood. The author does not intend for the reader to infer from this that he claims a direct connection, but only an indirect one, even if it is only through the connection of the nervous system. It is not at all probable that scrofula is the cause of eczema, on the contrary the well known bullous or scrofulous eczema is generally the initial cause of scrofula.

Anæmia is sometimes mentioned as a constitutional anomaly causing eczema, but in the worst cases of anæmia and chlorosis we seldom find a case of eczema, therefore I cannot recognize it as a direct cause; it may have an effect on the nerve centers and nerves of the skin. We are on all sides compelled to come to the conclusion that many of the forms of eczema are under a nervous influence directly, as has been mentioned some time since by Hebra. If rheumatism and scrofula are not the parents of eczema then we certainly need not expect disease of separate organs to cause it, unless indirectly through the nerve centers.

As will be shown by the therapy of infantile eczema, the divisions made are not only theoretical but also practical. The following are some of the general points of treatment given by the author and others; a formula having glycerine gelatine as a basis is much better than the simple gelatine: R. Zinci oxylate,

Gelatine, aa 10.0

Aqua distil.,

Glycerine, aa 40.0 M.

There is certainly no plan of treatment more cleanly and cheaper than the above method; the gelatine is made liquid when needed by putting it into some boiling water where it melts; the application is made by means of a brush. In eczema of the extremities the treatment is much enhanced in efficiency by wrapping them with heavy bandages. In mild cases one application may be sufficient. Where there is a great deal of weeping the bandage must be changed once in twenty-four hours, and the following formula can be substituted with good effect: 2.0 of sulpho ichthyolic may be added to the above formula.

In certain forms of the disease where a rapid radical cure is desired the following may be prescribed:

R. Zinci oxide,

Adipis,

Gelatine, aa 10.0

Glycerine, 70.0

Adde acid salicylici. M.

When large quantities of salicylic acid are used it is best to add adeps.

The kind of water to be used is a subject that has received more attention in England and America than in Germany. In severe cases it has little or no effect, and only causes a loss of time. In the more simple parasitic forms of eczema these washes often give good results. Acetate of lead 5-10 p. c.; chloral hydrate 5-10 p. c.; sublimate in 1-2 p. c. aqua picis, or better, liquor picis alkalinus; aqua laurocerasi, etc. By some authors a powder is used, finely prepared and dusted on the surface. Talk and flour are often used, to which may be added drugs possessing antiseptic properties. Acid boracicum, 5 p. c.; salicylic acid, 2p. c. When powders are used they must be applied plentifully, therefore a cheap powder is the best.

Baths are always frequently used in this disease. They are really never necessary, unless in the case of infants accustomed to being bathed regularly prior to the appearance of the disease. The warmth and moisture are injurious, unless the eczema is perfectly dry, or strictly of a nervoustype. The baths must not continue any length of time, nor should the water be hot. All taken together, baths in most of the cases had best be omitted.

Soap for the purpose of thoroughly washing the diseased parts is never necessary, and very often injurious. Cleanliness is always necessary. The use of the ordinary

green soap is often good to remove scales prior to an application of some medicament, but as for the soaps advertised and generally used by the laity, they are as a class certainly worse than nothing. The green soap as found in the market diluted with oil or lard makes a very nice application to scrofulous eczema. The cure is not rapid but pleasant. The treatment should be divided into physical and chemical. Probably the remedy that has given the best results lately is hot water; its action on an inflamed and itching surface is vaso motor, and at the same time the hard epithelium is softened. Water of a temperature of 40° R. applied to a hyperemic surface for a minute or two causes hyperemia and then anemia, and after quite a time the old condition returns again. The applications must therefore be made at intervals. The water must be so hot that the first effect feels painful. Where it is employed in small children the thermometer must necessarily be employed to determine the heat. After the inflamed surface is thoroughly dried, powder may be dusted on, and some one of the above-mentioned salves may be used. Another physical remedy is mechanical pressure, and where gelatin glue and rubber applications are used, a firm pressure bandage can be put on the extremities better than under the former treatment with salves. Finally, massage may be mentioned under this class of remedies. While the author's experience is limited, indeed, so much so that he can not even say in what class of cases it will act best, yet he had some good results with it.

The chemical agents are numerous, but the favorite in mild forms is oxide of zinc. It is nowhere contra-indicated. Mercury is used as calomel and corrosive sublimate in vaseline, and the latter in washes. Oleate of lead in conjunction with iodine is a favorite remedy. Sulphur in combination with zinc and tar, and tar preparations are frequently employed, and the following formula is a fair sample of the manner in which it is used:

R Picis liq.,
Sulphuris, aa 10,
Creta alba, 20,
Sapon vir., aa 30.

M. f. ung.

Carbolic acid should not be used in children at all, while it is not likely to do any good in adults. Naphthol is employed only in pruriginous forms, and then usually in

combination with some other remedies. Salicylic acid certainly has a great future in all forms of eczema. It may be applied in pastes, gelatinous ointments, and in combination with zinc ointment.

Pyrogallie acid and chrysarobin are not employed in children largely on account of their unpleasant after-effects. Like carbolic acid they had better not be used at all.

For internal medication a few remedies of value may be mentioned. Calomel three times daily in doses of .06 gm., and later .03 gm., is sufficient. Cod liver oil is efficient in scrofulous children with eczema. Arsenic once or twice a day, one to two drops of Fowler's solution, increasing the dose every other day, and then diminishing in the same manner. Sulphide of calcium given daily, as in the following formula, is best suited for suppurative eczema and furuncle which may complicate it:

R Calcii sulphurati puri, .01,
Glycerinæ exsiccati, 40,
Liq. ammon. acetatis, 1.

M. D. S., 1-2-3 teaspoonfuls daily.

Antimony is mostly used in acute forms with edematous swellings. Also pilocarpine has been used as a syrup (1 p.c.) when the itching is intense.

Abstracts.

OPHTHALMOLOGY, ETC.

[PREPARED BY DR. DAVID DEBECK.]

PARALYSIS OF THE CERVICAL SYMPATHETIC.—Nieden reports (*Centralbl. f. Augenheilk.* June 1884) a case of this character, and gives an interesting study of the accompanying ocular symptoms.

The patient, an intelligent man of 51, made an August trip from Hamburg to Genoa. For certain reasons it became necessary for him to direct the firing of the steamer; so that for six days he was exposed to the intense heat of the engine-room, or upon deck under the August sun.

He returned with reddened visage, and dilated capillary system: and sought the Rhine baths. The first plunge in the cool water was followed by a dull sensation in the right side of his face and head; and after leaving the bath, this area seemed to him to be paler.

When seen one month later, the right palpebral fissure was narrower than the left = 6 mm. : 9 1/2 mm. under ordinary conditions; and 8 1/2 mm. : 11 mm. under strong

effort to open the eyes. The action of the levator palpebræ, orbicularis, etc., was not affected. The right pupil was smaller than the left, 2 mm. : 4½ mm., and less prompt in reaction. Applications of electricity to the cervical symp. were without effect on the pupil. Exact measurement showed the right eyeball to lie somewhat deeper (about 1½ mm.) in its orbit. The area of the right lids, forehead, and the temple showed no marked difference in color, temperature or sensation (beyond a slight, unpleasant sort of hyperæsthesia); but presented a condition of anhidrosis, not a drop of perspiration could be noticed, even when the other side, or the general surface was moist. Litmus-paper only faintly and very slowly colored. The skin felt smooth and polished.

The syhpgmograph showed the ordinary arterial curve on the left side. The right temporal artery was markedly altered: the excursion was greater, and the descending line showed six, seven or eight undulations, indicating a flaccid vessel, from vaso-motor paresis.

This group of symptoms is explained by peripheral involvement of some of the upper twigs from the cervical sympathetic; no symptoms pointing to the lower branches existed.

Treatment for six weeks with electricity without result. Steam-baths, pilocarpine, etc., also negative.

After nine months the condition still remains, although all these symptoms are very much less marked.

PUPILLARY SYMPTOMS IN GENERAL DISEASES.—Little of Phil'a. gives (*Amer. Jl. of Ophth.*, July, 84.) an analysis of the condition of the pupil as observed in one-thousand cases of general disease. This includes Allbutt's two-hundred and forty five cases, Gower's sixty cases and Noyes' thirty seven cases. His own observations includes six-hundred and fifty eight cases. These series are made up of cases of acute and chronic nervous diseases and insanity. Abnormal condition of the pupils was found in 23.5 per cent of the cases; about in the same per cent in both acute cases and in the insane. The variation from normal consisted of mydriasis, myosis, inequality, immobility, spasm and hippus, the latter three conditions rare.

The one-thousand cases include six-hundred and two males and three-hundred and

ninety-eight females, many of the cases children.

Eyes with any form of ocular disease, opacities, etc., were excluded.

MICROSCOPIC CHANGES IN A TATTOOED CORNEA.—Alt describes (*Amer. Jl. of Ophth.* April, 84.) the changes found, under the microscope, in a human cornea that had undergone the process of tattooing. The cornea had been tattooed about six years previous for a large leucoma the result of purulent conjunctivitis. The eye was enucleated on account of persistent pain, and fearing sympathetic trouble. The sections showed the epithelium thickened; Bowman's layer mostly wanting; the pigment molecules were scattered throughout the over corneal cells; but what was most striking were a large number of cell-cylinders dipping down from the epithelial layer into the corneal tissue. Most of these were solid cylinders of epithelial cells, a few, however, were hollowed out, the cavity being filled with serous fluid in which were a few lymphoid cells.

This condition resembles in a very remarkable manner malignant epithelioma; but the case presented no clinical features of epithelioma, over the hollow cylinders found. They were undoubtedly the tracks of the tattooing needle, although now retaining none of the pigment molecules. No other author has described such appearances; one having described bands of fibrous tissue as occupying the old tracks of the needle.

POISONING BY DUBOISIA.—Wilson reports (*Archives of Ophth.* March, '84.) a case of this. Patient had corneal ulceration. Atropine first used and proved irritating. Eserine then employed and also found irritating. Kerato-iritis with hypopyon had developed. Patient now used a poultice on his own responsibility.

When next seen pupils contracted by eserine and anterior chamber one third full of pus. Within a half hour seven drops of a one per cent solution of duboisia sulphate are dropped in by the author.

In two hours patient is again seen. Throat dry, patient hoarse; pupil of the opposite eye slightly dilated; face flushed; mildly delirious, rational when aroused, if left to himself incoherent; exaggerated muscular contractions, but marked lack of co-ordination; pulse full and strong but ir-

regularly intermittent. Six hours later these symptoms had nearly disappeared.

Duboisia continued; recovery with corneal opacity, but no synechiae.

Selections.

MEDICINE.

WORD DEAFNESS. — Since the distinction was drawn between sensory and motor aphasia by Wernicke and Kussmaul, numerous cases of pure sensory aphasia or word deafness have been reported. But a limited number of these cases, however, have been followed by an autopsy, hence each new case which is accompanied by a careful record of a post mortem examination, is of interest both to advocates and opponents of the theory of localization. Dr. Albert Rosenthal, of Warsaw, publishes the following cases in the *Centrab. f. Nervenheilkunde*:

An apothecary, 37 years of age, had an attack of apoplexy in December, 1878, producing a right hemiplegia, which gradually passed off, so that in three months no evidence of paralysis remained. In August, 1879, the man had a second attack, beginning with general convulsions and leaving him paralyzed on the left side and aphasic. The convulsions recurred every fourth day, lasting a few minutes and being attended with loss of consciousness. After a few weeks the attacks became less frequent and he finally recovered, so that in three months the aphasia had disappeared and the left hemiplegia was scarcely noticeable. His third attack occurred in April, 1880, leaving him completely paralyzed on the left side, aphasic and deaf. These, except the deafness, remained, and in September, 1883, he was admitted into Dr. Rosenthal's Asylum at Warsaw, as he was said to be subject to fits of maniacal excitement. On examination it was found that the entire left side, including the facial and hypoglossal nerves, was paralyzed, and the extremities were in a state of contracture. The deep reflexes in the left leg were markedly exaggerated, and were radiated to the opposite limb. Sensations of pain were perceived equally on both sides, but other sensations could not be tested, on account of the aphasia. The patient was not deaf, he could hear the slightest sounds, but he was entirely unable to understand what was said to him. When asked his

name he neither attempted to answer, nor did he offer to write a reply, although when the question was shown him in writing he wrote his name at once. When asked to put out his tongue, or if his head ached, he made no answer. He understood gestures and motions, however, perfectly, and when his head was pointed to he indicated by shaking it that he had no headache, and by appropriate signs he was made to put out the tongue.

He indicated that he could not understand by putting his fingers to his ears when any one spoke to him. He understood writing to some extent, but was often inaccurate in his written replies, showing that the power of reading was impaired. He could speak only five words. He was perfectly conscious of his condition, and frequently cried at his inability to speak. He knew his surroundings and recognized friends. He remained under observation a year, showing no signs of insanity, and no evidence of a change in any way. He died of pneumonia in October, 1883.

The autopsy showed two lesions in the brain. The first was a defect of substance on the surface of the right hemisphere, involving the paracentral lobule in its external part, the posterior four-fifths of the posterior central convolution in its entire extent, and the adjacent portion of the convolutions of both parietal lobules as far down as to the margins of the Sylvian fissure. It was three and a half by four cm. in extent and eight mm. deep. The defect involved the cortex and the white substance just beneath it, and a tract of descending degeneration was traced through the internal capsule and pons into the left pyramidal column of the cord.

The second lesion involved the first temporal convolution of the left hemisphere in its posterior and upper third, together with the adjacent portion of the second temporal convolution. It was one and one-half by two cm. in extent. The cerebral tissue was changed into a hard, red substance. Microscopic examination showed distended blood vessels, fatty corpuscles, pigment cells, and fatty degeneration of the ganglion cells around both lesions. The diseased tissue had not been examined when the case was published.

After alluding to a similar case of lesion of the post. central convolution reported by Charcot, and attended by a similar paralysis with contracture, Dr. Rosenthal dis-

cusses the subject of word deafness, stating that this is the eighth case in which the lesion has been found limited to the left first and second temporal convolution. The stationary character of the lesion and its long duration (two and a half years), taken with the absolute lack of any signs of recovery, proves that one hemisphere can not do the work of the other, and localizes the power of understanding spoken words. — M. A. S. in the *American Journal of Neurology*.

ANTIPYRIN — A NEW ANTIPYRETIC. — Prof. Filehne, of Erlangen. and P. Guttmann, of Berlin, report a new antipyretic to which the above name has been given. It is a derivative of chinol, and is a white, crystalline powder, having a feeble taste. After doses of 2 grm. have been given hourly for three hours, the temperature is reduced from the highest pyrexia to 38° C., and its antipyretic action generally continues from 7 to 9 hours; after 18 and 20, the temperature returns to the same height as before, but always without rigors. — Guttmann tried it in 27 febrile cases, and found its action constant, and never lasting less than 5 hours. — *Medical Press*.

SORE THROAT IN CHILDREN. — Dr. Ashby, in the *Practitioner*, December, 1883, contributes an article on the necessity of examining the fauces in children suffering from the different acute specific fevers. The most important forms of inflammation of the throat in children are classified under four heads: 1, Simple catarrhal tonsillitis; 2, scarlatinal tonsillitis; 3, pseudo-diphtheritic tonsillitis; 4, diphtheria. In diphtheria the characteristic appearances are usually well marked about the pharynx, but there are some points which aid one greatly in deciding whether the attack is diphtheria or not. Among these a swelling of the cervical glands with cellulitis, or perhaps a fetid discharge from the nose, is a point strongly in favor of diphtheria. Again, the pulse is weak, the temperature is not high, as a rule, the urine is loaded with albumen, and there is no rash to make one confound the disease with scarlatina. In diphtheria the onset is insidious, in scarlet fever it is sudden, and is nearly always accompanied by vomiting, often by diarrhoea. In simple catarrhal tonsillitis the onset is sudden, and the temperature rises the first evening to about

103° F., the tonsils are equally swollen, and in a few hours yellow spots make their appearance, owing to the retention of the secretion in the crypts. There is no true ulceration of the tonsils, nor sloughing of the soft palate, nor cellulitis around the cervical glands. The pseudo-diphtheritic form resembles true diphtheria very closely but the cervical glands are not swollen and there is no albumen in the urine. — *Boston Med. and Surg. Journal*.

PHYSIOLOGY OF THE VASO-DILATOR NERVES. — While the physiology of the vaso-constrictor nerves is becoming satisfactorily known, and is extensively studied; that of the vaso-dilators, whose very existence has been disputed, has only recently received a share of the attention so profusely given to the angio-motor apparatus as a whole. Dastre and Morat, after some introductory statements of well-known facts — facts of a kind that may be found laid down in primitive text-books, and without which it seems French writers find it impossible to introduce a subject, but with all which they seem to be unable to escape such gross and palpable errors as the assertion that the vaso-motor nerves are only excited by irritations which are "automotrices or reflexes," that is, automatic or reflex — devoted a long series of experiments to the physiology of the bucco-facial vaso-dilators. Beginning with the old observation of Schiff that the vessels of the rabbit's ear undergo a rhythmical contraction, the authors observed attentively the condition of the median auricular artery which undergoes, as Schiff observed, apparently spontaneous dilatation to the treble of its normal calibre, or as extreme a contraction, without any relation to the cardiac or respiratory movements. These extreme excursions can be stopped by the division of either of the antagonistic nerves, that is, of the vaso-dilators and vaso-constrictors of the ear vessels. After a series of operative experiments on various sympathetic and cervical nerves, the authors conclude that the vaso-dilators of the ear, as well as of the bucco-facial region, *may have* two origins — one in the spinal cord, the other in the oblongata. The chief ground for this belief, as expressed in the monograph (*Arch. de Physiologie*, 1882, p. 326) under discussion, is, that, even after dividing the cervical or thoracic sympathetic, the reflex or asphyxial irritation of the nerve-centres

still suffices to provoke a certain degree of vascular dilatation. Inasmuch as the influence of the cord on the vessels is eliminated by the section of the sympathetic, it must be the oblongata which exerts the influence in question. It is remarkable that the writers cited should lay any stress on the influence of asphyxia. There are other facts than those which seem to have been at their disposal which might justify their final conclusion that the medulla oblongata is the most important and systemic vasodilator centre.—E.C.S., in *American Jour. of Neurology*.

FIBRILLARY TREMOR OF THE TONGUE.—

There is an unfortunate tendency in the minds of some writers and teachers to attach undue importance to single symptoms. Perhaps no more erroneous generalization has been made than that which attributes to fibrillary tremor of the tongue an essential relation to paralytic dementia in its early stages. While almost any organic nervous disorder may be a complication of parietic dementia, and thus the symptoms of ordinary nervous diseases be engrafted on those of the typical psychosis, and while degenerative processes in the cranial nerve nuclei are common, and thus determine this symptom of degeneration, the latter may be entirely absent in the earlier periods of the disease. We have recently observed two subjects, one having already developed delusions of aggrandizement, and the other being far advanced in dementia, in neither of whom was there either fibrillary tremor of the tongue, or the vibratile tremor of the hands. It is common to see the tongue manifest a vibratile general tremor; again, it is observed that the neat adjustment of fascicular contraction is destroyed, some fasciculi are more innervated than others, and a sort of struggle ensues, thus producing a spurious resemblance to a fibrillary tremor, though, in reality, it is an ataxic phenomenon. If any kind of motor disturbance is to be considered characteristic of the early period of paralytic dementia, it is the tiring of the co-ordinating apparatus. The consequence is that, the longer the patient continues to hold out the tongue, or to extend his arm with the fingers spread, the more frequent become certain involuntary movements, usually fascicular in the case of the tongue, and limited to individual fingers in the case of the hand. This latter was prettily

illustrated in the case of a Mrs. M—, who had no vibratile tremor, but whose fingers closed up, one by one by jerks, until all the fingers were together, she having been ordered to spread them and keep them so. In some patients, individual fasciculi seem to be continuously in a state of tonic contraction, producing an actual pitting of the tongue surface from the traction on the mucosa.—E.C.S., in *American Journal of Neurology*.

LIVER SPOTS.—In an article on tinea versicolor, or liver spots, the *Medical and Surgical Reporter* says: The treatment is not difficult. The sulphur preparations are all useful, such as sodium hyposulphite, one dram to the ounce of water, or Velminckx's solution, which is prepared as follows:

Quicklime,	½ ounce.
Flowers of sulphur,	1 “
Water,	10 “

Boil down to six ounces and filter. Perfume with oil of anise. This may be used diluted with four to eight parts of water, to be dabbed on the patches after a bath with soap and water. At the end of a week scarcely a sign of the disease will remain, and at the end of two weeks a cure may be effected. The result depends largely on the manner of making the applications.

EFFECTS OF THE PROLONGED ADMINISTRATION OF THE BROMIDES IN EPILEPSY.—In the *Lancet*, 1884, p. 883 and 928, Dr. Hughes Bennett contributes an able article on his experience of 300 cases of epilepsy treated with the bromides of potassium and ammonium, and directs attention to the effects of the prolonged administration of large doses of these drugs, with the view of ascertaining if, while arresting or diminishing the frequency and severity of the paroxysmal symptoms, they beneficially influence the disease itself, or in any way injuriously modify the constitution of the patient. A number of tables are constructed, which show that in the majority of cases the physical and mental powers do not appear to be injuriously affected. To the suggestion that their prolonged use becomes, as in the case of opium, a habit, it is argued that, though their consumption became a necessity, if it can be shown that the results are not serious, while the evils they avert are important, the habit ac-

quired may be looked upon as a justifiable one. The author has every reason to believe that the use of the bromides in large doses and for a prolonged period tends toward the eradication of the disease.—*London Med. Record.*

SULPHUROUS ACID IN THE TREATMENT OF LUPUS VULGARIS.—Dr. Collier, in the *Med. Times and Gazette*, 1884, p. 551, brings forward some cases of lupus vulgaris treated locally by sulphurous acid. Recognizing its powerfully destructive effects upon some forms of micro-organic life, it will not be difficult to conceive how its curative results may be produced in lupus vulgaris. In addition to its germ-destroying influence, sulphurous acid also exerts a powerfully stimulating action when applied to the surface of open wounds, especially in cases of indolent ulcer, etc. In gonorrhea its effects, as an injection, are most marked. It is best applied locally in the form of an oil, made by dissolving the anhydrous acid in castor oil.—*London Med. Record.*

THE ACTION OF OXYGEN ON THE ACTIVITY OF THE LOWER ORGANISMS.—Professor J. Hoppe-Seyler, of Strasburg, recently drew attention to the above subject in the *Zeitschrift f. Physiol. Chemie*, and maintains that the activity of these organisms is in inverse proportions to the admission or penetration of oxygen. The same process takes place in a fermenting saccharine solution as in a decomposing cadaver, and as in water containing fermentation and decomposition products from animals and vegetable particles. The higher the temperature rises between 32 and 104° F., and the more free the supply of fermentable material, provided there is a sufficient degree of dilution, the less efficiently does oxygen penetrate the fermenting mass. The writer conceived the idea of bringing every particle of such a mass into constant contact with a large supply of oxygen. He carried the idea into practice by a series of contrivances by means of which a flask containing the decomposed material was steadily half-rotated on its axis, so that the fluid alternately washed the side of the vessel, so that when the backward rotation took place the thin layer of fluid adhering to the side of the flask was exposed to the air or oxygen, and every new semi-rotation brought into play a new layer of the fermenting mass. In a second division of the apparatus a quantity

of caustic alkali, likewise in motion, took up the carbon dioxide set free. Arrangements were also made for carrying off the ammonia that resulted from the process. The experiments yielded the decided results that the constant presence of free, indifferent oxygen, the only demonstrable products of decomposition of liquids containing albuminoids were; carbon dioxide, ammonia, and water. Even when the decomposition has been going on for weeks, neither hydrogen nor marsh gas are formed so long as oxygen reaches every part of the fermenting mass, neither are the usual product of decomposition—indol and skatol—formed; leucin and tyrosin, if at all, only transiently. These results agree with those previously published by the author, that the lower organisms, so long as they are exposed to a plentiful supply of oxygen, behave exactly as other organisms do—they absorb oxygen and give off carbonic dioxide, water and ammonia, or substances rich in ammonia. In the absence of oxygen, all the organisms gives rise to the phenomena of fermentation; whilst, however, the fungi and yeast species can live for a considerable time without oxygen, the other organisms quickly die, and the bodies of which they are composed fall a prey to the former species.—*The Medical Press.*

CERIUM OXALATE IN PHTHISIS.—The Medical Bulletin states that oxalate of cerium has been used quite successfully as a palliative to the cough in phthisis. It has the very great advantage of not disturbing the digestion or bowels. To preserve the appetite of a consumptive is quite as necessary as to relieve his cough. Thirty grains of the oxalate is given at bedtime, and repeated before morning, if advisable. Ten grains may be given every few hours during the day, if necessary. A little chloral hydrate or spirits of chloroform combined with the remedy often greatly assist the action.—*Drug News.*

THE CONNECTION BETWEEN NERVOUS AFFECTIONS AND DISEASE OF THE NARES.—Dr. O. Chiari, of Vienna, lately reported three cases of nervous affection which appeared to have their starting point in disease of the lower turbinated bone. Two were cases of supra-orbital neuralgia, one of them associated with profuse nasal and lachrymal secretion. The right side was quite impermeable to air, in part through

six large polypi, and in part from polypoid suppuration of the mucous membrane. Extirpation of the new growth was followed by complete cure. The third case was that of a patient suffering from bronchial asthma. This case was treated by galvano-cauterization of the anterior end of the inferior turbinated bone. Complete cure of the asthma resulted. The author is of opinion that in every case of the bronchial asthma, even when important changes are present in the heart and lungs, the nasal cavity should be explored or the erectile structure of the nose destroyed.—*The Medical Press.*

SURGERY.

THE PLASTER POSTERIOR SPLINT IN THE TREATMENT OF FRACTURES OF THE LEG.—By George W. Gay, M.D. of Boston, in the *Boston Medical and Surgical Journal*.

The ideal dressing for a broken leg must be simple, comfortable, cheap, readily obtained, easily applied and removed, and must allow a frequent inspection of the limb without annoying the patient. It must be applicable to all cases, capable of correcting any and all deformities, and of retaining the fragments in the desired position an indefinite length of time; not liable to produce abrasions or other mischief; and once properly adjusted it should require little attention during the progress of the case.

Such an appliance has never, to my knowledge been brought to the notice of the profession, but the one that seems to combine more of the desirable qualities than any other is the plaster posterior splint. It has now been in constant use at the City hospital for several years and has become a standard method of treatment at that institution.

The splint is made of sheet wadding, a coarse muslin or crinoline, and plaster of Paris. It may be applied as follows: The leg is washed and dried, and enveloped in cotton, which has been torn into strips four inches wide, sewn together, and made into rolls like an ordinary bandage. Enough should be used to protect the bony processes and tendo Achillis from pressure.

A single layer of the gauze large enough to extend from the toes to above the knee is to be placed beneath the limb, closely wrapped about it, and cut so as to completely surround it with the exception of a space about an inch wide on the anterior aspect. This piece serves as a pattern by which the

other layers, six or eight in all, are to be made. The muslin is to be slashed on each side opposite the point of the heel, to allow the foot-piece to be brought to a right angle without forming clumsy folds. Other slashes may be required to make the dressing fit snugly and smoothly, and to prevent any wrinkles.

Fresh plaster of Paris mixed with warm water to the consistency of cream is now to be thoroughly rubbed into each layer of the gauze, and the whole applied to the limb at once, moulded closely and carefully to it, and firmly secured with a common bandage. The fragments are to be held in their proper place until the splint has become sufficiently firm to prevent displacement, which with good plaster is not over fifteen or twenty minutes. In some cases the object may be accomplished by means of sandbags or pillows. In a few hours the outer bandage is removed, the cotton wadding cut open with scissors, and the appliance is complete, and may be worn with comfort for several weeks without renewing.

A certain amount of judgment and tact is required to use this dressing satisfactorily, but no more than is necessary in the treatment of fractures of the leg by any other method. A little experience will enable anyone to become familiar with the practical details of applying this bandage, and the field of its usefulness will be found to increase in proportion to familiarity with it.

Particular attention is called to a few points in adjusting this plaster case. Great pains should be taken to keep the fragments in proper position until the plaster sets, otherwise they may get displaced, when a new bandage will be required or a deformity will be the result. The foot should be placed at nearly a right angle to the leg, especially if the fracture is at or near the ankle. Little padding is required except about the heel and malleoli. No wrinkles or folds should press upon the limb. The splint should reach the metatarso-phalangeal articulation below, and as a rule, should extend above the knee, especially in children, to prevent twisting of the fragments in their long axis, in other words, to hold the foot in its natural relation to the knee. It should embrace about three fourths of the circumference of the limb in order to give the desired support and retain itself in position.

This dressing is specially adapted to simple fractures of the tibia or tibia and fibula,

which are not attended by serious injury to the soft parts, and in which no great force is required to keep the fragments in position. It is very convenient in children. Applied under ether it is firm and solid before the patient awakes, and does not require frequent tinkering during recovery.

Certain cases of compound fracture of the leg can also be satisfactorily treated with the plaster tray, if the soft tissues are not too extensively injured, and if the wounds be so situated that they can be exposed through apertures in the splint for purposes of cleanliness and local applications. For this class of injuries the bandage may be strengthened with strips of hoop iron lined with oiled silk, and kept in position with buckles.

Properly applied to the above-mentioned classes of injury the plaster posterior splint is comfortable and efficient; it is self retaining; it holds the fragments firmly in position; it allows the patient to be moved or to move himself without danger of disturbing the fracture; it permits the parts to be examined readily; being opened throughout its entire length the bandage accommodates itself to the swelling of the limb without any great danger of strangulation; it can be applied immediately after the accident, it being unnecessary to wait until the inflammatory stage has subsided; it can be removed and readjusted with ease, and can be worn indefinitely.

The same rule in regard to opiates obtains here as in all other fractures, namely, that they should never be given until the physician is certain that the dressings do no harm.

Contrary to the teaching of most authorities, the writer believes in frequent examinations of broken limbs, until the fragments are so closely joined that they can not easily be displaced. It must be a very exceptional case in which union is delayed by too much manipulation. Broken ribs and collar bones though necessarily subject to constant motion, almost always unite well. So do fractures complicated with delirium tremens, or excessive restlessness, or insubordination, in which the parts often sustain great violence.

If the physician would avoid splint sores, deformed limbs, and law suits, he must, by personal examination, keep himself constantly informed as to the position of the broken bones and condition of the soft parts, even at the expense of considerable

discomfort to the patient. Temporary pain caused in this manner is of little importance compared to the life-long mental and physical distress which may result from a deformity.

The susceptibility to pain varies so much in individuals that it is not safe to rely altogether upon their sensations in determining the compression of a bandage. I once saw a case of gangrene of the foot, the result of tight bandaging, in which there was no suffering. The only safety lies in watching the circulation of the toes, and making careful examinations of the limb, being guided to a certain extent by the sensations of the patient. It should be remembered that some persons with fracture complain of pain, whatever treatment is followed. As these patients generally eat and sleep well, and remain in good condition, opiates must be given sparingly.

The position of the fragments encased in the apparatus under consideration can often be determined by simply sliding the fingers along inside the splint without removing it. But to thoroughly examine the injured parts the tray must be forcibly sprung open and the leg carefully lifted out.

As plaster of Paris is brittle, not elastic, frequent removals of the dressing tends to weaken it. Whenever it becomes loose from this cause, or from wasting of the limb, it may be tightened with straps, or a new one may be applied. One bandage is often sufficient.

The results obtained by this treatment are probably no better than from side splints, fracture-boxes, etc., but there is a great saving of time and labor to the surgeon. There is not that necessity for a frequent readjusting of splints and bandages, which is essential for other appliances.

The writer wishes it to be distinctly understood that this dressing is not adapted to all varieties of fracture of the leg. Some cases of Pott's fracture accompanied by marked eversion of foot, requiring strong pressure to restore and retain it in its proper position, can perhaps be better treated by other methods. So likewise may those bad cases of oblique fracture of the tibia, where the fragments override each other to a considerable extent. Severe contusions of the soft parts should not be subjected to pressure until all danger of sloughing and ulceration is past. The presence of blebs and blisters, however, does not necessarily preclude the use of this dressing, as they may

often be treated through an opening in the plaster.

It has always seemed to me that those physicians who permit their patients to go about on crutches a few days after an immoveable bandage of any kind has been applied to a recent fracture of the lower extremity allow their enthusiasm to get the better of their judgment. The complications liable to occur during the repair of broken bones are so numerous, and at times so insidious, and lawsuits for malpractice are so common, that no adult should be allowed to move about until there is fair union of the tibia and fibula, which usually requires from four to six weeks, and little weight should be put upon the limb for some time longer. There can be no doubt that deformity occasionally takes place in these cases from the patient's getting up too soon, while the union is green, thereby allowing the fragments to yield under the weight of the body.

Those cases of fracture of the lower end of the fibula and rupture of the deltoid or internal lateral ligament of the ankle, accompanied by an outward dislocation of the foot, are often very difficult to manage, and require a longer confinement than any other simple fracture of the leg, three or four months being necessary in some instances to insure sufficient repair to prevent future deformity. In some of these cases it is impossible to avoid a little eversion of the foot, whatever may have been the treatment and however long it may have been continued. The writer has seen a recurrence of the dislocation after three months confinement. He has also seen two or three cases in which the inner malleolus had been exposed by ulceration due to a return of the deformity, after a fair union had apparently taken place. He would never permit a person weighing one hundred and fifty pounds to bear his weight upon a Pott's fracture under three months, and the greater the weight the longer should be the period of rest.

A different line of treatment is called for in some cases of fractures of the shaft of the long bones, more especially of the femur. When the union is imperfect at the end of three months or thereabouts, nothing does so much good as to encase the limb in an immovable bandage and get the patient up on crutches. The local irritation which results from this practice tends to excite the reparative process so that the fragments soon unite firmly.

In conclusion let me repeat that while the plaster posterior splint is not adapted to all fractures of the leg, yet in the classes of cases specified in this paper I most heartily recommend it, hoping that a fair trial will convince some surgeons, as it has the writer, that the dressing combines more good qualities and fewer bad ones than any other in use.

BILLROTH ON EXTIRPATION OF THE KIDNEY.—Operative interference in the cases of renal calculus or rather intractable conditions of the kidney is gradually becoming accepted as an orthodox surgical procedure. Recognizing this important fact, Professor Billroth has recently delivered an address on the subject of extirpation of the kidney, which will serve to establish the operation still more firmly in its position among the recent advances in abdominal surgery. Although unable to record any striking series of successes, he analyzes with considerable minuteness the recorded results of others. Since the operation was first introduced by Simon fifteen years ago, there have been nearly 150 such cases put upon record. For statistical purposes, however, these are far too few to form a basis for any trustworthy conclusions. The operations themselves have varied very widely. The nature of the disease for which the operation was undertaken, and, above all, the condition of the opposite kidney, are points so vitally important in determining the issue of each case, that no general comparison of cases can as yet be profitably made.

In all new operations also, it must be remembered that many cases are unsuccessful owing to the late stage of the disease in which the radical cure is attempted. The importunities of patients clamoring for relief at any cost cannot always be disregarded, and many operations are undertaken under pressure, which would never be attempted if the unbiased judgment of the surgeon were left untrammelled.

Of 132 cases of extirpation of the kidney, seventy recovered and sixty-two died. For prognostic purposes such figures are absolutely nothing, but at any rate, they prove that in more than half the cases it is at least possible for recovery to take place after removal of one kidney. In classifying cases for operation, a special place must be reserved for those in which the removal of the kidney is really accidental, that is, in which the tumor to be removed has been

diagnosed as non-renal, or in which such a tumor has become so firmly adherent to the kidney as to necessitate removal of the whole mass. Healthy kidneys have occasionally been removed, and sometimes successfully after injury, or for the relief of incurable urinary fistula. In one case of the latter, Professor Billroth himself operated with partial success, which, owing to the general enfeeblement of the patient's powers, was not maintained. In certain cases also of floating kidney, the healthy organ has been completely removed. Of fourteen such operations, eight were successful and six unsuccessful, partly from inanition and partly from peritonitis. Twelve of these cases were operated on through an anterior incision, and two through the loin.

Attempts at fixation of a movable kidney have hitherto failed, but in Professor Billroth's opinion, "we must not relax our efforts towards further search in this direction, and the devising of some new method of fixation, or by some other means to prevent the movable kidney from exercising a drag on the stomach. Perhaps one of these days a happy thought in this direction will occur to some one."

Extirpation of the diseased kidney may be undertaken for renal suppuration, hydronephrosis, or renal tumors. Professor Billroth himself has never performed complete removal of the kidney for renal abscess. In deciding to operate, the really important point upon which success or failure may turn, is the condition of the opposite kidney. In a few cases the establishment of a fistula and a free drainage from the pelvis of a suppurating kidney may be followed by a passage of clear non-purulent urine from the bladder. There can then be no reason to doubt the health of the remaining organ. But in certain other cases, the passage of pus with the urine persists, notwithstanding such free drainage. In either case the indications are not really trustworthy, but at present no better guides can be relied upon. Looking to all these conditions, and also to the variety of mischances to which such a procedure is liable, it must be allowed that the success of the operation in twenty-two cases out of forty is really somewhat astonishing.

With respect to nephrectomy in cases of hydronephrosis, it must be borne in mind that such cases have occasionally been cured without operation, and, further, that they are not of necessity fatal. The diag-

nosis in the first instance is beset with difficulty. "The anatomical relations of the sac of a hydro-nephrosis," says Professor Billroth, "the relation of its contents to the ureter, and the indications given by their chemical composition, in which both urea and uric acid may be entirely wanting, the diagnosis by palpitation and percussion, all are difficult matters, and I will not go closer into them at present. Like the diagnosis of abdominal tumors in general, they form but a contribution to the history of diagnostic failures, which are ever and anon demonstrating to us, *ad oculos*, the limit of our art." Nine cases in all are recorded of the extirpation of a hydronephrosis, and of these the majority were originally diagnosed as ovarian tumors. Six were completely cured and three proved fatal.

The statistics of nephrectomy for new-growths are less satisfactory. Of thirty-three operations, twenty failures are recorded as against thirteen successes. "One can hardly wonder" (at these results) "when one reads with a shudder of what has been attempted in this direction. It seems to me here at least one has gone a little to far." In two cases operated on by Billroth himself and not hitherto published, good recovery took place. The first case, in which a large myxo-sarcoma was removed by abdominal section, and the second in which the lumbar incision was made, may be taken as type cases of the two forms of operation. Following Czerny, with his unprecedented experience of eighteen cases of nephrectomy, Billroth expresses a decided preference for the lumbar operation. Although the removal of a healthy kidney through the loin may be effected with the greatest ease in the dead subject, it is quite a different matter to remove a suppurating kidney. The most important points are the finding and properly securing of the ureter, and of the renal artery and vein. The healing of the wound does not appear to be attended with any special risk, although abscesses may occasionally form.

Nephrectomy by means of laparotomy is attended with much greater risk owing to the exposure to septic infection of the peritoneal surface. The serous effusion which takes place from the edges of a fresh wound is the fluid above all others favorable for the development of all kinds of micro-organisms, and all possible means must be

employed to prevent the access of this fluid to the peritoneal cavity. Professor Billroth observes, in conclusion, that operative interference in the cavity of the abdomen can only bring relief in a certain class of cases. "It is now the task of the present day to recognize and define still more clearly the class of cases in which surgical measures are of use. If we have here and there pushed the limits of surgical benevolence somewhat widely, we may, without discredit, retract them a little as our experience extends, but at the same time fix them upon a still firmer basis. If the surgeons of to-day will not fancy themselves to be such all-powerful fellows, but will be content to follow with modesty the example of their brethren the physician, indefatigably investigating and combining, we may yet succeed in bringing cure, or at least temporary relief of their troubles to still more unfortunate sufferers. This is, and always will be, the ultimate aim of our common scientific and humane endeavors, and the real end and object of our noble calling.—*Medical Times and Gazette*.

CATARRHAL LARYNGITIS. — Jonathan Hutchinson, F.R.S., etc. (*British Medical Journal*), in the course of an address on the Collective Investigation of Disease, made the following remarks:

I do not think that enough is known about catarrhal laryngitis. It appears to me to be a very definite affection, in minor forms tolerably common, but in its severe ones rare. It is, in a certain way, quite distinct from croup, being entirely non-membranous. It seems to me to be more common in adults or in those past middle life than in others. There is a tradition that Washington died of it. Acute oedema of the larynx is scarcely a suitable name for it, since it may be produced by a variety of causes, whereas, the malady to which I desire to call attention is always due to exposure to cold, and always obeys the law of true catarrhal affections in passing off completely and rapidly if the patient survive. In almost all the fatal cases which I chance to remember, the cold was caught while going to church, and all were in men past middle life. In one, a gentleman of fifty-five, who but one year before, had insured his life for a very large sum, being apparently in excellent health, died on a Wednesday, having caught his cold on the previous Sunday evening. In this case the

death was in spite of laryngotomy, and it is possible that there was pneumonia also. In the last which I have seen, and the one which has made the greatest impression on my mind, the patient, a gentleman of fifty years, attended an evening service in cold, wet weather, complained of his throat immediately after, had paroxysms of extreme difficulty of breathing, and died in one of them, within forty hours of his having joined in the duties of the choir. So distinctly paroxysmal had been his dyspnoea, and so complete the remissions that he died in his clothes, not having gone to bed. This feature of complete temporary relief had led his medical attendant into the mistake of telegraphing for me to do tracheotomy instead of at once doing it himself. The patient in the end died before either of us could get there. We were allowed to examine the body within an hour of death, and found the larynx and adjacent parts in a state of extreme congestion, with much oedema, but without a trace of membrane.

I by no means insinuate that catarrhal laryngitis has been wholly neglected in systematic works, but I feel sure, from much conversation with those of large experience, that collective investigation would be likely to bring out its features more definitely and add an important chapter to the clinical history of catarrhal ailments in general.—*Boston Medical and Surgical Journal*.

HODGE'S PESSARY IN FRACTURES OF THE LOWER JAW.—Dr. W. J. Naismith (*Lancet*) describes a fracture of the lower jaw at the symphysis, with a transverse wound two inches in length over the mental protuberance. The fragments of the jaw were freely movable, and it was desirable to apply an apparatus which would fix the bone in place immovably, and at the same time allow the wound to be dressed. Accordingly a Hodge pessary was brought into use, by bending it so as to allow the chin to protrude through its ellipse. One bar was moulded so as to support the fracture anteriorly, the other steadied it from below, while the rounded ends afforded admirable lateral pressure on each side, at a point in front of the angles of the jaw. To the rounded ends of the pessary tapes were sown, two on each side, over the padding, and secured over the head, or to a fillet, and around the neck by small buckles. For fractures of the maxilla at or near the symphysis, with or with-

out wound, the Hodge's pessary seems well adapted. It can be bent to fit any size of jaw, and in the qualities of comfort, lightness and coolness, compares very favorably with the solid cumbersome appliances included under the head of moulds.—*Maryland Med. Journal.*

ATONIC DILATATION OF THE STOMACH. Prof. Germain Sée and Dr. Albert Mathieu have published in the *Revue de Médecine* the first part of an interesting paper on this subject, with the following résumé:

1. Besides those dilatations of the stomach which are due to a relative or absolute obliteration of the pylorus, there are others in whom this mechanical cause cannot be considered.

2. In a certain number of these cases, lesions appreciable by the microscope, give a sufficient cause for the exaggerated distension of the organ. (Interstitial cirrhosis of alcoholics, fatty degeneration, etc.)

3. The dilatation of the stomach is produced in a passive manner among feeble individuals, exhausted by a general cachectic condition, in consequence of this weakness, and perhaps, particularly from a want of action of the muscular walls of the abdomen.

4. In the other conditions, there is simply a paralysis of the stomach, which numerous observations assign as a consequence of a general traumatism or an epigastric traumatism.

5. Most frequently simple dilatation of the stomach occurs in individuals who present particularly a condition of general neurosis.

6. It occurs in the course of crises which seem to indicate a successive and alternate intervention of a special state of spasm and atony of the gastro-intestinal motor system.

7. These crises, often painful, sometimes accompanied by diarrhoea, are habitually provoked by an occasional or general cause, such as the emotions, moral shocks; or by a local cause such as excess in, insufficiency or bad quality of food. These crises are in this way the local manifestation of a constitutional spasmodic neurosis (the neurasthenia of certain authors).

8. Constipation and flatulence seem to play an important part in the mechanism of the development of these gastro-intestinal disturbances with a predominant gastric dilatation.

9. Dyspepsia rarely occurs previous to the dilatation but frequently succeeds it. It seems to be characterized by the presence in marked quantity of peptones in the urine.

10. In all cases permanent gastric dilatation does not occur until after alternations of spasmodic action (the cause of the pain and diarrhoea) and of atony (the cause of distension).—*Journal of American Medical Association.*

CHROMIC ACID FOR CAUTERIZATION IN DISEASES OF THE NOSE, PHARYNX AND LARYNX.—Dr. M. Hering has an article on this subject in the *Revue Mensuelle de Laryngologie, d'Otologie et de Rhinologie*, in which he considers:

1. That chromic acid, placed upon metal sounds, is an energetic caustic, but little painful, irritating the mucous membranes but slightly, and used to the best advantage in adenoid tumors, granulations, soft polypi, parenchymatous hyperplasias, etc.

2. A too energetic cauterization over too extended a surface, may produce either by the absorption of the caustic, or by its introduction into the stomach through the pharynx, symptoms of intoxication, vomiting, etc., accidents which may be prevented by the use of the salts of soda in the solutions. Hering has never seen any dangerous collapse, or choleraic intestinal catarrh follow these conditions.

3. Infinitesimal quantities are sufficient for cauterization, an operation which must be performed with care; the surplus of the acid being neutralized, and the cauterization not repeated until the inflammation has disappeared, and the eschars have dropped off.

4. Chromic acid produces a better effect than any other of the medicaments used at the present day in the treatment of chronic catarrh, with tumefaction and moderate hypertrophy of the turbinated bones; and its best quality is that it produces a rapid cure without causing great pain.—*Journal of American Medical Association.*

ANATOMY AND PHYSIOLOGY OF THE SPINAL GANGLIA.—In regard to the physiological functions of the intervertebral ganglia, the results obtained by Vejas (*Centralblatt für die Med. Wiss.*, No. 18, 1884) from his experiments upon animals differ in many points from those of Waller.

Waller's researches seem to show that, after section of the sensory root, only the central portion (the end in connection with the spinal cord) degenerated, while after section of a motor root only the peripheral fibres (cut off from the cord) degenerated. Waller hence presumes that there is a trophic centre for the motor fibres in the cord, and, as to the sensory fibres, that each intervertebral ganglion exerts a trophic influence, both towards the centre and the periphery. Vejas observed, on the other hand, that, after dividing either the motor or sensory roots, the portions left in connection with the spinal cord wasted away, and at the ganglion itself no persistence of sensory fibres with central direction was to be found. Both motor and sensory fibres were wanting from the ganglion, while the ganglion-cells remained quite normal, and from the ganglion a thin white nerve took a peripheral direction. Finally, the ganglion itself wasted, after section of its peripheral fibres. From these results, and from evidence of the unipolarity of the spinal ganglion-cells, Vejas contends against Waller's theory. Vejas regards the nerve-fibres coursing from the ganglion peripherally, which persist after section of the roots, as a special bundle of fibres, which take origin from the ganglion-cells of the spinal cord, and are perhaps endowed with some functions as yet unknown.—*Lon. Med. Rec.*

OBSTETRICS AND DISEASES OF WOMEN.

CYSTITIS. By Dr. William Gardner, in the *Canada Medical and Surgical Journal*.

The subject of the lecture for this morning is, if judged by its frequency and the amount of distress it causes the unfortunate sufferer, one of the most unfortunate that engages our attention.

While in some respects the disease resembles cystitis in our own sex, it differs from it in many others. These differences refer mainly to the causation, as influenced by that important adjacent organ, the uterus, with its remarkable functions and the many diseases to which it is subject. It is divided into acute and chronic. It may affect each or all of the coats of the bladder, and so be of the mucosa, of the peritoneal investment, or of the muscular coat. But these are often steps in a general process, the disease beginning in the mucosa and extending to the other coats, and this

is the most frequent order; or beginning in the serous coat, as an epicystitis or pericystitis, and extending inwards to the mucous coat, which is much rarer. The causes are many. Injuries from blows, falls, coitus, sudden displacement of the uterus, fracture of the pelvic bones, pressure of the child's head during labor, over distension of the organ after labor or under other circumstances, rough catheterization, or too frequently repeated gentle use of the catheter, introduction of foreign bodies, as practiced by masturbating and hysterical women, abnormal urine, and extensions of inflammation from adjacent organs, as of gonorrhoeal or simple vaginitis or vulvitis, or from the peritoneal surface.

A little more consideration of some of these causes will be profitable. The pregnant, parturient and recently delivered woman, in whom the parts are in a condition of physiological activity and increased vascularity, or have undergone contusion from pressure, or are paralyzed, and so liable to over distension, is especially prone to cystitis. Hence the great frequency of the disease under such circumstances, and its unusual difficulty of cure. Of catheterization it must be said that it is always a source of irritation, however gently performed. How much more so must it be if done roughly, and if the necessity be frequent.

But there is another danger in the use of unclean catheters. Winckel has said that the mucous membrane of the bladder is the most sensitive in the body to sepsis. These facts convey to you self evident and important cautions.

Abnormal urine is most important in its effects in causing inflammation of the mucous coat of the bladder. Probably, however, it is not so powerful if the mucous coat be healthy.

Congestion, as from over-distension, furnishes a sufficient predisposition. Women frequently suffer from over distension of the bladder in conditions other than puerperal. For such reasons and others, women often delay emptying the bladder for a long time after there is a safe amount of distension. Many cases of cystitis are thus set up in the sex. Now let us see how such a cause may act. Over-distension leads to deficient power to expel the last drops of a urine which, from the congestion, contains mucus. The mucus decomposes. It sets up decomposition of the

urea, and carbonate of ammonia is produced. This renders the urine alkaline and, therefore, foreign and irritant to the coat of the bladder. Another result of alkaline urine is the precipitation of the earthy and triple phosphates, and so inflammation is set up.

The symptoms of cystitis are well marked. Frequent and painful micturition, accompanied with tenesmus of the bladder. The pain, at first, local, pelvic and peritoneal, radiates to the navel or to the breast and loins. The urine, at first pale, of low specific gravity, and acid, becomes alkaline and turbid from blood, mucus, pus and precipitation of phosphates. The disease is not always confined to the bladder. It may extend up the uterers to the kidneys, and so uteritis, pyelitis pyonephrosis and renal abscess result. In the bladder itself, a cystitis at first merely catarrhal may become ulcerative, or the inflammation may be diphtheritic or gangrenous.

The diagnosis is usually easy, but it can not be made from the symptom of frequent and painful micturition. The urine must contain mucus, blood or pus. The conditions with which it may be confounded are irritation of the bladder from uterine displacement: irritation or inflammation, with cicatrization of the utero-sacral ligaments; other forms of pelvic peritonitis; fissure at the neck of the bladder, urethritis, and stone in the bladder. As regards most of these, it may be said that to be forewarned is to be forearmed.

The prognosis is much better than it would have been twenty years ago. In healthy subjects it is good. In the pregnant or lying-in woman it is not so favorable. It is much more apt to become chronic, and to leave the part weakened and sensitive. When ulceration is present, the outlook is by no means so favorable, although not absolutely bad. The tendency to hemorrhage, to extension to the peritoneum, to perforation, to extension to the kidney, to blood poisoning, constitute many avenues to a fatal result, which sometimes comes to the patient when it is not expected.

The treatment, being suitable, ought to be early and prompt, to prevent the disease becoming chronic. In the acute stages, keep her at rest in bed, keep the skin acting, also the bowels, by the use of saline laxatives and mineral waters, aided, if ne-

cessary, by cold water enemata. Indigestion must be removed, and a free portal circulation maintained. An important indication is to render the urine as bland and unirritating as possible. A diet of large quantities of skim milk, diluted, in cases where the urine is very acid, with some natural mineral water, as Vichy or Apollinaris. Linseed tea and the decoction of triticum repens, in large quantities, act as diluents to the urine, and perhaps as something more, especially in the case of the latter. A good prescription in the early stages is a combination of citrate or bicarbonate of potash with infusion of buchu. Leeches to the anterior vaginal wall, and poultices of linseed meal and tincture of opium to the hypogastrium are often of undoubted value. To relieve the severe pain and distressing tenesmus, you will be obliged to give sedatives and narcotics, but I must caution you to withhold the most powerful of these, the opiates, as long as possible. They undoubtedly relieve pain, but they derange digestion and act injuriously in other ways. By mouth the Dover's powder is the least injurious. the rectal suppository is probably the most efficient form for the administration of morphia or other remedies. Other remedies are, however, to be first tried. Camphor is useful. The bromide of potassium sometimes acts best. It must be given in full doses — 20 grains every four hours.

Skene speaks well of hydrobromic acid. It may be given in doses of two to four fluid drachms of the dilute acid, well diluted with water. Marked alkalinity of the urine furnishes an indication not very easily met. The only acid useful for this purpose is the benzoic, the dose is ten grains. A small dose, say five grains, of borax should be added to render the benzoic acid soluble. The combined dose may be given in infusion of buchu. In the later stages of this, as of other mucous inflammations, balsamic remedies sometimes do good. Balsam of Peru and copaiba, and oil of turpentine are the most useful. In cases where there is marked foecal urine, salicylate of soda has been highly commended.

But the time soon comes, in cases at all severe, at which local applications to the vesical mucous membrane must be used, if we are to do our best for our patients. The simple washing out of the bladder is

often of the greatest value, but the method of this simple operation is of the greatest consequence. If done carefully, so that the coats of the bladder suffer no mechanical violence, much good may be effected, otherwise it may be most injurious. As a rule, the piston or bulb syringe must be avoided. Use, then, a fountain syringe. The most convenient form is a small-sized glass funnel, with two feet of rubber tubing attached, the other end of the tubing being slipped over the open end of a No. 8 gum-elastic catheter. Violent contraction of the coats of the bladder when in contact with the end of the catheter, is often most hurtful. To obviate this the catheter must be made to barely enter the cavity. To attain this, especially when the patient or her attendant administers the injection, as must often be the case, slip over the catheter a guard, which may be a piece of thin, flat wood or gutta percha, perforated, leaving only about two and a half or three inches of the catheter from its point. The guard rests against the vulva, and prevents the catheter penetrating further than is necessary to just enter the cavity. With such a simple, cheap apparatus, which any one can prepare in a few minutes, every object may be gained in the majority of cases. Gravity is the injecting force. It is even, not jerky, and may be as gentle as desired, according to the height of the funnel. The patient is placed on her back, with the knees drawn up, the catheter is inserted, and thus, without removing it, the bladder may be thoroughly washed out, and the cleansing fluid having been allowed to flow out, the medicated solution is run in. To avoid irritation from over distension, no more than two fluid ounces ought to be injected at once. This is a point on which Sir Henry Thompson is most emphatic in his instructions for injecting the male bladder. It is equally important in the female.

Next, some instructions as to the solutions you are to use. For mere washing out purposes, solutions of common salt or of potassium chlorate are best, 3i to the pint. These solutions are less irritating than plain water. Carbolic acid, 1 to 60, is also valuable. Then there are various astringents which are sometimes beneficial. Such are acetate of lead, sulphate of zinc, and tannic acid, one or two grains to the ounce. Of this class of remedies I have reserved for last that which, in my opinion,

is the most valuable — the nitrate of silver. You will find by most writers solutions of 1 to 2 grains to the ounce recommended. This is far less valuable than a much stronger solution, 30 or 40 grains to the ounce, of which I have had some recent very satisfactory experience. Such a solution causes severe pain and vesical tenesmus for a few minutes, and it is well to be prepared with your hypodermic syringe when administering it, which must usually be done at the patient's own home. Confinement to bed for a day after is advisable.

I may here mention a case I recently saw. The symptoms were of several years' duration, and came on after confinement. For nearly a year I had tried a variety of astringents, with only slight benefit, but my attention was directed during the winter to the stronger solutions of the nitrate of silver by an article in the *Philadelphia Medical News*. I resolved to try the remedy. The results were most satisfactory. After two applications the patient expressed herself as being better than for eight years.

In this strength the remedy ought not to be used oftener than once a week. Morphia has been injected to relieve severe pain. Solutions of 1 to 2 grains to the ounce may be employed.

The value of rest, so well recognized in the treatment of surgical cases and of medical cases too, is no less in inflammations of the bladder than in other inflammations. It is the difficulty of attaining this which makes cystitis hard to cure. In some cases, especially where the urethra is not involved, this may be attained by placing a catheter in the bladder and allowing it to remain there constantly, removing it twice daily only for the purpose of cleansing it. This is to be done by forcing a stream of carbolized water through it. When a catheter can thus be tolerated, it will be of great value.

Some years ago Dr. John Goodman, of Louisville, Ky, published a paper in the *American Journal of Obstetrics*, Vol. VII, page 413 (1874), in which he reported a series of cases in which the method proved most valuable. He used a short catheter with a bulbous extremity, which secures its retention within the bladder. The other end is provided with a flange which prevents its slipping in. A piece of rubber tubing attached to the outer end conveys the urine to some convenient receptacle.

Another means of securing rest is by an

operation which has been done rather frequently in recent years. I mean rapid dilation of the urethra. I reported a case of severe chronic cystitis cured by this operation in the *Canada Medical and Surgical Journal*. I had, however, a subsequent failure; but the case was a much worse one. At that time I did not know the value of the strong solutions of nitrate of silver, or probably I should not have done the operation, which has been followed in many cases by the deplorable result of permanent incontinence of urine.

Lastly, and as I believe, the most valuable resource of all for securing complete rest of the bladder, an artificial vesico-vaginal fistula may be formed. This operation was first done by the late Dr. Willard Parker, of New York, for the purpose of drainage of the bladder in a man. Dr. Emmet, of New York, justly claims priority in the performance of the operation for the cure of chronic cystitis in women. By it the bladder is placed completely at rest for the requisite length of time, and an opening afforded for the application of medicated fluids to the lining membrane. It is true that the patient becomes a sufferer from a distressing infirmity, but one involving much less suffering than the condition for which it was inflicted, and perfectly curable by subsequent operation. If it be further remembered that it is the only mode of treatment that affords a chance of life to the sufferer from a disease which often leads to death from extension to the kidney or otherwise, its justification must be complete.

Bibliography.

MEDICAL GERMAN. (1)

A knowledge of the German language has come to be one of the most essential parts of a physician's education. Even in localities where it is not necessary for purposes of conversation, it is highly requisite in order to advance with the times, for the best of our literature comes to us in German, and it is only a small portion of it

1 A Manual designed to aid physicians in their intercourse with German patients and in reading German works and publications in the German language. By Solomon Deutsch, A.M., Ph.D., author of "Letters for Self-Instruction in the German Language" etc. New York: J. H. Vail & Co. 1884.

that is translated, and that in a very abridged form.

The authors of the various dictionaries have done much for us by introducing medical terms and phrases; but there are many expressions that for a long time prove difficult of translation. Professor Deutsch has collected many of these and translated them. The work is not a dictionary, but is intended to supplement the use of one. It consists of two parts. In the first there are nearly six thousand words and phrases, arranged with reference to special application to certain diseases or symptoms. Part second consists of seventy-five conversations, by which a pretty full examination could be made into as many complaints, except one which is addressed to the druggist. A complete index, in English as well as German, is added, greatly facilitating the use of the book as a dictionary. To state that the book contains all needed information would perhaps prove erroneous, but it certainly will prove of great value in the field for which it is designed. And after one has gained a little experience in its use, he will find it more servicable than it at first appears.

J. M. F.

FAT AND BLOOD. (2)

Our readers who are indebted to the author of this little work for the many valuable facts and suggestions contained in former editions of it, will be pleased to learn that it is again in print, and that many additions have been made. We feel that the mere announcement of its appearance is sufficient. Its author is too well known to require an introduction; and his vast experience and success are sufficient evidence of the value of his statements on clinical matters.

The book is full of practical hints for the skillful management of those most trying of all cases, hysterical females.

Much has been written against the methods employed by the author, viz., seclusion, rest, massage, and electricity, but

2 An Essay on the treatment of certain forms of neurasthenia and hysteria. By S. Weir Mitchell, M.D., Member of the National Academy of Sciences, Physician to the Orthopaedic Hospital and Infirmary for Diseases of the Nervous System, Fellow of the Philadelphia College of Physicians, etc. Third edition, revised, with additions. Philadelphia: J. B. Lippincott & Co. Cincinnati: Robert Clarke & Co. Price \$1.50.

negative evidence is of little value in the presence of strong positive evidence. The great error is in improper selection of cases for treatment, and too little attention to the details of treatment. It was for the purpose of overcoming these errors that the author gave us the book; and we are confident that the present edition will be received with universal favor. J. M. F.

In Memoriam.

DR. L. A. JAMES.

Death has again invaded the ranks of the medical profession in Cincinnati and one of our oldest members has been borne to his last resting place, Dr. L. A. James died July 25th. For several years Dr. James has been incapacitated for the active practice of his profession by reason of a most painful disease of the spinal cord.

Dr. James was born in Rising Sun, Ind., and received an excellent literary education at Oxford University and took his degree in medicine at the Medical College of Ohio in 1844, and at once began to practice his profession in this city. At the outbreak of the War of the Rebellion Dr.

James was among the first to offer his services to the Government, and was appointed surgeon of an Ohio Volunteer Cavalry Regiment. He served with his command in the field, as Medical Director of a Cavalry Division, and in charge of important hospitals at Nashville, Tenn., and other points. The severity of the service was such that his health was permanently impaired, and to such an extent as to necessitate his retirement from active practice.

Dr. James was a man of superior attainments, but exceedingly modest in his pretensions. He was generous and kind to all who came in contact with him. In his death the medical profession has lost a most worthy member, his family an affectionate husband and father and the country a valued citizen.

MRS. JUGGINS: "I always have said it, and says it again—Nobody need be ashamed of their origin." Mrs. Muggins: "Jest so, my dear; a little drop in moderation is as good as medicine and there's nothink orrid about it."

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DR. J. LEWIS SMITH, New York, in his work on diseases of Infants and Children, Ed. 1881, page 710, says: "*The one food in the shops which, on account of its excellence, merits most the confidence of the profession, is Liebig's as now prepared by HORLICK.*"

DR. ABRAHAM JACOBI, President of the New York Medical Society, in his anniversary address says: HORLICK'S FOOD is deserving of more favorable mention than others, as it is a food in which the starch has been converted into dextrine and grape sugar, and is therefore more easily digested.—*Philadelphia Medical News*, No. 7, Vol. XI.

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HORLICK'S DRY EXTRACT OF MALT—BEST IN USE.

Original Articles.

THE TREATMENT OF PURULENT INFLAMMATION OF THE MIDDLE EAR.

By A. R. BAKER, M.D., Cleveland, Ohio.

I remember hearing Dr. C. R. Agnew say in one of his lectures some years since that there was not one general practitioner in the United States in twenty who knew the normal ear drum when he saw it. I thought at the time it was a broad assertion, but my subsequent experience has led me to think that he was not far from the truth. There is no student of average intelligence who with a little assistance could not learn to recognize the appearance of the normal drum in a few hours, and need never undergo the humiliating experience of mistaking a plug of wax for it. Yet we have professors of otology in all our medical colleges. (?) Is there not something radically wrong in our system of teaching? There is no reason why every general practitioner should not be able to use reflected light and the aural specula and discontinue the empirical treatment of ear aches by putting all sorts of mixtures into the external auditory canal and waiting for "something to break."

Most cases of ear ache can be relieved by syringing with hot water, and the use of dry heat externally, and the occasional application of a leech to the mastoid process. If this does not relieve the inflammation at once, and it goes on to suppuration, the general practitioner ought to be able to perforate the drum and let the pus escape. With reflected light it is no more difficult than to open an abscess. An abscess may be so situated that if left to open of its own accord it can do no serious harm. But in this case we have a cavity almost surrounded by bone, and containing one of the most delicate organs of the body, and before perforation takes place, almost sure to do irremediable injury.

The danger of the extension of the inflammation to the brain and its meninges is an additional stimulus to urge us to act promptly. Dr. Buck says that "*a localized meningitis may be assumed to exist in every severe case of acute purulent inflammation of the middle ear.*" It would be interesting to know in what percentage of deaths from meningitis this is the origin.

Every one performing post mortem ex-

aminations should appreciate the importance of looking for such indications, as here is a fruitful field for original investigation.

I have nothing new to add to what Dr. Turnbull has so often and so well said about the use of boracic acid in impalpable powder in the treatment of purulent inflammation of the middle ear. But so far as my observation has extended, its use has not yet become general, and I think I am justified in calling the attention of the profession to it once more. Many physicians who have used the remedy, have used a very coarse powder; or used it in small quantities; or neglected to remove the secretions thoroughly, and did not have the ear perfectly dry; or used the syringe too frequently, and did not let the powder remain in the ear long enough, or neglected some of the essentials of success, and consequently its use has been followed by disappointment.

As illustrating the results of this treatment, the following summary of notes taken of forty cases of inflammation of the middle ear may be of interest:

Twenty-five cases of more than three years' duration: all suppuration ceased in the longest case under treatment in thirty-nine days; in the shortest, in three days, and the average duration of discharge after the commencement of the dry boracic acid treatment, seventeen days. Some of these cases had failed to receive benefit from other methods of treatment.

Fifteen cases of less than three years' duration: the longest case under treatment was relieved of all secretion in nineteen days; the shortest in one day, and the average duration of suppuration ten days.

I use the powder as recommended by Dr. Turnbull in an article read before the Pennsylvania State Medical Society, of 1882, on this subject. The boracic acid should be pulverized so finely that when rubbed in the hand no crystals can be seen. I have had several druggists attempt to pulverize, in an emergency, without success. Comparatively few druggists keep the impalpable powder in stock. This is true at least of Northern Ohio, Western Pennsylvania and New York.

The ear is to be dried carefully with absorbent cotton, through the speculum, and with reflected light. Patient is not able to do it himself, and it often requires considerable time and patience on the part

of the physician. The syringe is to be used only in exceptional cases, when it is impossible to remove the hardened secretions in any other manner. After removing all the secretions from the external ear, and, if the perforation is large enough, from the middle ear, with absorbent cotton, it is necessary to inject air forcibly through the Eustachian tube, and force the contents of the middle ear into the external canal, where they can be removed. Much, and, in fact, the most essential part of success, depends on cleaning every portion of the auditory apparatus thoroughly, and in having it perfectly dry before using the powder. After this is accomplished, pack the auditory canal full of the powder, using gentle pressure, so as to force the powder through the perforation into the middle ear, and place a little plug of cotton to retain the powder *in situ*. I have packed the powder so firmly sometimes that I expected to be called upon to remove it on account of the excessive pressure, but have never found it necessary yet to do so.

Do not attempt to blow the powder into the ear with one of the many insufflators in the market, and as recommended by the books. If you do, you will manage to get almost all the powder in your face, and little or none in the ear.

As long as the powder remains perfectly dry, let it alone. When it becomes saturated, remove it carefully as before, and pack with powder again. Continue this treatment as long as the powder becomes moist from the secretions. When the powder remains dry for several consecutive days, we may infer that the suppuration has ceased. Yet we must not be in haste to remove the powder, and if we use the syringe, in all probability we will start the suppuration anew. I have relighted an old suppuration weeks after all discharge had ceased, by inconsiderately using the syringe.

Some cases will be cured with one packing; many cases will not require more than three or four, at intervals of one to five days, while other cases will require careful packing and attention for many days.

In simple, uncomplicated cases, the above treatment is all that will be required. Unfortunately, they constitute a small percentage of the cases we meet in practice. The general condition will usually need careful attention, many cases requiring general tonics and other specific treatment.

Patients must avoid taking cold. Daily cold bathing is the best preventive.—Polypi, caries, stricture of the Eustachian tube, enlarged tonsils, anterior and posterior hypertrophies, will receive appropriate treatment. Brushing the post nasal cavity with ten to twenty grain solutions of nitrate of silver has proved the most satisfactory in the treatment of post nasal catarrh, in my hands.

Some persons do not hear as well after the suppuration has ceased as they did when at its height. I have found this true of a smaller percentage of cases than the books had led me to expect. I have almost always been able to restore the hearing to its former acuteness, if not better than before the suppuration was abated, by the persistent use of Politzer's air douche. I never give a Politzer bag to a patient to use at home, as I am certain I have often seen serious harm result from its improper use. I generally find two or three times a week as often as it is advisable to use the air douche in most cases.

A CASE OF CONGENITAL DEXIO-CARDIA.

By C. B. VAN ZANT, M.D.

Congenital ectopia cardis intrathoracica being a condition of great infrequency, the following case, which has recently come under the writer's notice, may prove of some interest to the readers of the LANCET AND CLINIC. The personal history and present condition are as follows:

Sam'l H., æt. 31, American, printer; is of medium height and well nourished, weighing at present about 130 pounds. Has always enjoyed good health, having escaped even the ordinary diseases incident to childhood. Suffered with "chills and fever" at the age of ten years.

Patient first noticed his peculiarity when about eight years old. After running with some companions he put his hand to his chest to feel the heart beat, and was surprised to find it on the right side. He at once communicated the startling intelligence to his parents, and subsequently was examined by several physicians, who confirmed his observations.

Physical Examination.

Apical impulse of the heart is most distinct an inch below and an inch internal to the right nipple at the lower border of the fifth rib. The præcordial area, as elicited

by dulness on percussion, is defined as follows:

Upper boundary is on a level with the lower border of second rib, or a half inch below the line of junction of the manubrium and gladiolus; thence from the chondro-sternal articulation of right second rib, directly outward to the right parasternal line; thence downward and to the right in a curved direction, passing an inch within right nipple to the point of apex beat at lower border of fifth rib; thence toward the left and a little downward to the lower end of the xiphoid cartilage; from that point up along the left border of sternum to the second rib.

The boundaries on the left side were best defined by deep percussion, as the left lung overlapped the heart to a slight degree. The position of the lower margin of the lung was exactly the reverse of normal in the front, on the right side corresponding to the lower border of the fourth rib, and on the left to that of the sixth rib. The lower margins of both lungs reached the lower border of the eighth rib in the axillary lines, and of the tenth rib behind.

Position of the liver is normal.

Spleen is considerably enlarged downward and forward.

The feature of interest, aside from the cardiac malposition, is the reversal of the normal position of the lower border of the lungs anteriorly, an evident provision on the part of Nature for the accommodation of the malposed heart.

The question naturally arises whether the dextrocardia is congenital or secondary, the result of some of the various costal pleural pulmonary or mediastinal diseased conditions, which by pressure a tergo or traction a fronte so often lead to this condition.

That the present case is one of congenital malposition of the heart seems conclusive from the entire absence of any previous thoracic disease, and also from the fact that as far back as the patient can remember, the condition existed.

At present he is robust, in the enjoyment of excellent health, experiencing no unpleasant sensations of any kind in the chest, nor suffering from cough, dyspnoea, or any of the associate symptoms of cardiac or pulmonary disease. No murmurs are audible over any portion of the heart.

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Translations.

INTERNATIONAL SANITARY POLICE REGULATIONS.

AND

EXOTIC PESTILENTIAL MALADIES.

BY DR. A. FAUVEL.

[Translated from the "*Revue D' Hygiene*" by Thomas C. Minor, M.D.]

Sanitary stations, organized to prevent the importation of exotic pestilential maladies from one country to another, are little understood and not appreciated, meantime, these institutions bear an interest of the first order and yet are reproached with being oppressive and useless.

Although the rigorous and often barbarous regulations of former times have given place to far less objectionable rules, it is certain, that under the name quarantine, the sequestration, enforced in some cases, is a subject for complaint and, that the public, who are acquainted with these measures only from the stories of persons who have experience and felt the inconveniences of the methods employed, are prejudiced against them.

The commercial interests of shippers are involved in this question, and the merchant sees himself enchained as regards business owing to the enforcement of regulations prejudicial to his interest.

Many physicians, unacquainted with the real workings of such institutions and their utility, often add the weight of their opinions to the general outcry. Their great complaint is that quarantines are *not always successful* in preventing the propagation of those maladies against which they are directed. Such complaints apparently have some foundation; but we assert that only one side of the question is looked at, *i.e.*, the *inconveniences* attached to all restrictive measures. That inconveniences do exist there can be no doubt, but the question is whether they are not largely compensated for by the resulting advantage as regards not only the public health but commerce in general, such advantages following the even imperfect enforcement of sanitary measures. This is the point we propose to examine.

To our mind, all restrictive measures whose advantages, viewed from a sanitary standpoint, do not compensate for inconveniences submitted to, should be abolished. Thus numerous procedures used in former

times have been suppressed, and our more exact knowledge regarding the period of incubation of exotic diseases has led us to reduce the time of quarantine. Yet, in Europe, sanitary cordons and stations between states are asserted to be nuisances and perfectly useless, owing to the necessity becoming more and more imperious, of not disturbing international relations, while the inconveniences owing from the even momentary disturbance of such inter-state communication is superior in importance to any advantages derived from sanitary inspections, so that in Europe quarantines between States have, for the most part, been abolished.

Maritime quarantine alone have been maintained and these have been made less strict, by the force of circumstances, that is to say by the influence of business interests. In the north of Europe, for example, where the maritime relations of States are so numerous and are operated at short distances as to almost assimilate communication by land, restrictive measures against epidemic and contagious diseases have been reduced to the minimum of efficacy. At such ports, no attention is paid to the time of incubation of a disease, and, sequestration is only resorted to in the case of those ships which actually have infected patients aboard. Here the dominant interest is not to suspend communications with another State, and they run the chances of propagating the disease by admitting persons who appear to be healthy to *free pratique*. It is necessary to add however that as regards certain contagious diseases in the north of Europe, they exhibit a tendency to spread less than in the south.

In Southern France great importance is given to the question of quarantine as applied to maritime provinces, and, all vessels coming from ports where contagions diseases exist are carefully watched. Thus, along the Mediterranean, the commerce of foreign States far from complaining of such restrictive measures, believes that quarantine preserves the public from pestilence and that such a measure does more good than harm, at all Southern European ports. At Marseilles for example, all accord in the requirement of quarantine measures, while overland traffic is unrestricted. The objections often urged against quarantines as applied to cholera, is, that the disease may prevail as an epidemic in any part of Europe and no barrier is opposed to its

overland progress. Experience is charged to answer this theoretical objection. Doubtless the absence of all obstacles to the overland progress of disease, largely diminishes the efficacy of measures instituted against maritime provinces, especially those of neighbouring countries, but it is no less true that such restrictions prevent the importation of contagion from a distance for the reason that they isolate infected vessels and thus oppose a most powerful factor in the propagation of epidemic diseases. It is of as much interest to France that Cholera should be prevented from entering the country from Russia at a French port as it should be opposed in passing our overland borders. By the one method we gain time at least and it has happened on several occasions that the epidemic progress of a disease has been stopped in its overland passage. The last epidemic furnished numerous examples of this kind, and proved the efficacy of the maritime quarantines, even although the disease progressed a short distance. It was proved in a striking manner at Marseilles in 1873, by the preservation not only of that city but the whole South of France, while cholera was prevailing at Naples and Genoa and had been imported into the lazaret at Marseilles and when, in the meantime the disease entering France from the North by way of the Port of Havre, was propagated and spread through Rouen and Paris.

Those who demand an absolute guarantee from quarantine that its restrictive measures shall always be successful, under penalty of being considered useless if failure results, never cease to claim that the utility of such a restriction is an ideal which should not exist in practice, and that the only criterion of the usefulness of such a measure is that the amount of prevention they give to the public health should be superior to all the inconvenience arising from the enforcement of such stringent restrictive measures. Now, as I look at it, the guarantees offered are subordinated to a thousand circumstances and interests.

Throughout Europe, a true antagonism exists between the north and south in the manner of viewing the importance of maritime prophylactic measures, owing to this fact it is impossible for us to arrive, as was once hoped, at an international understanding regarding the application of identical measures with a view of facilitating commercial relations,

The Sanitary Conferences held for this purpose at Paris, Constantinople and Vienna were complete failures. Nevertheless, if the two last conferences were not successful in bringing about an understanding as regarded sanitation for Europe, as between States, in the case of cholera, there was a complete accord as to the preventive measures to be adopted in case the Continent was threatened by an invasion of this disease. Let us briefly mention this subject.

We may state that if the maritime measures of prevention in Europe—that is interstate sanitation, are only *slightly efficient* owing to the fact that overland communication is free—that this is not the case as regards the direct application of quarantine measures to foreign countries from which pestilential maladies are liable to be imported. In the latter instance, the efficiency of preventive measures, without being absolute, is subordinated to the character of the methods adopted, to their proper adaptation and to the degree of receptivity of that country from which the pestilence may be imported.

Quarantine measures calculated to bear on the maximum period of incubation in the disease, combined with methods of disinfection for all objects capable of transmitting contagious maladies, give every possible guarantee, provided at the same time that such measures shall not be foolish shams, as in the case of certain countries where quarantines are carried on with apparently extreme rigor.

We may safely affirm that measures, less severe in appearance, when wisely applied, are more efficacious than more excessive procedures, which ordinarily fail to accomplish the purpose for which they were intended. This is the practical spirit in which all the maritime measures proposed for France were conceived.

In Spain the measures are more rigorous, and no more efficient. Portugal and Italy hold a middle ground between France and Spain. Gibraltar is the most severe of any place as regards preventive measures. All suspected provinces are refused admittance there, and quarantine applied even in suspicious cases means a lengthy isolation from contact with the port. This matter has an interest of the first order to those countries which, owing to their climate and commercial relations with provinces in which pestilential diseases are epidemic,

are particularly exposed. Let us add that we maintain there is excessive severity in the preventive measures prescribed under such conditions, and that a less violent and more practical system would answer the purpose as well, if not better.

In France the rigor of the quarantine is not the same in Mediterranean ports as in those of the ocean. The city of Marseilles, which still preserves mournful recollections of the plague of 1720, and which has often been afflicted with cholera, enforces severe quarantine. Public opinion in Marseilles is a unit on this point, and this is explained by the fact that the city is the grand entry port of France for all vessels arriving from those countries in which epidemics of pestilence are common. The efficacy of quarantine in this port is proved by long experience.

Our great ocean commercial ports, Bordeaux and Nantes, have only yellow fever to guard against, and as this malady, in spite of the feeble precautions employed, has never been propagated sufficiently to become epidemic, except once, at St. Nazaire in 1861, it follows that when our sanitary regulations were revised in 1876, the representatives of commerce at Bordeaux obtained the privilege of being less stringent in the enforcement of maritime rules than their countrymen at Marseilles.

To be truthful, the quarantine has been made less stringent even in later years, but as yet the protective measures adopted have proven all sufficient.

Our Mediterranean ports, as regards exotic pestilential disease, undergo the same restrictions as those of the ocean.

England reduces preventive measures to the minimum as regards foreign ports. There are no quarantines, properly speaking, and no isolation save in the case of individuals attacked by contagious diseases, when resort is had to measures of disinfection. This system is dictated by the commercial interests, which, in England command all others. The climate, also, and the inland system of public hygiene, are decidedly unfavorable to the propagation of exotic pestilences. We must admit, however, that if England takes few precautions against invasion by the disease from abroad, that she fights diseases better than any country in Europe, by resorting to isolation and disinfection in all diseases propagated by contagion. The example of England as regards maritime quarantines

should not be followed by other countries. It is true that at Gibraltar, at Malta, and a few other points, England never hesitates to practice more extreme measures.

From what I have already said is easily perceived how largely international commercial returns complicate the question of quarantine as applied to maritime countries.

Let me now say a few words regarding the diseases requiring sanitary police measures.

We are now at an epoch where we are asked to prove that cholera, yellow fever and the plague, all of which are exotic pestilences, are endowed with contagious properties, and may thus be propagated throughout Europe if imported. We think the proof of their contagion is definitely settled, although we will not admit that each of these maladies is susceptible of the same degree of spreading equally in all the countries of Europe. The contagious element is only one of the factors of propagation, and in order to be active, all the surrounding conditions must be unsanitary, and there must be that predisposition that results from poor hygiene. Each of these maladies must be opposed by variable precautions, measured in the proportion to the danger of its propagation in this or that country.

Cholera, yellow fever and the plague are at the present day the three exotic diseases to which are applied, at least in France, that preventive measure known as quarantine; certain other contagious diseases, such as variola and diphtheria, are likewise the objects of particular attention, but these diseases being autochthonous, and more or less different everywhere, are only guarded after the cases are developed, and they can not attack all the provinces at once in epidemic form. Exanthematous typhus, having little tendency to spread beyond the infected locality from which it arises, may be classed in the same category, and does not invoke the same preventive measures as in the case of persons attacked by the malady in an infected ship.

The three exotic pestilential maladies we have mentioned incessantly menace Europe with new invasions by different ports, and with unequal chances of propagation.

Thus to-day cholera menaces Europe from its active infective centres in India. It may enter the continent as it has before on several occasions, across Persia, thus invading Russia; this is the usual route.

Once in Russia the epidemic is almost invariably propagated over the greater portion of Europe, as we have seen it spread in later years. Against such an invasion maritime quarantines, as we have before stated, exercise only a slight restraint, on account of the incessant commercial communications between different European States, communications that under no circumstances will permit of interruptions.

Sanitary medicine on such an occasion can only prevent the transportation of the disease by maritime quarantines between the ports of Europe, and in this manner retard the invasion of the epidemic. This was done in 1871 and 1873 with great success by our Mediterranean ports, while Havre and Cherbourg suffered.

The maritime relations between the ports of Northern Europe are, as we have stated, so numerous and at such short distances apart, that it is next to impossible to enforce stringent measures without disturbing commercial relations to such an extent as not to compensate for the results obtained. Could we, for example, without enormous prejudice, impose quarantine against Great Britain in case of cholera? Evidently not, our intercourse with England is almost as intimate as by land, all we could do in such an emergency would be to act against the particular ports or towns contaminated. When cholera arrives on the Mediterranean coast there is still reason to fear that quarantine measures there may be powerless, by reason of overland importation, but, as such measures present less inconvenience than at our northern ports, they may be more stringently enforced and thus more efficacious. We had a striking example of this in 1873, when cholera, coming from Italy, was isolated in the pest house of Marseilles, without in the least infecting the city. The whole of Southern France was thus preserved and protected from danger, notwithstanding the fact that an epidemic raged in Normandy and at Paris.

Another way in which cholera incessantly threatens Europe is the maritime route from India, by the Red Sea, Egypt, or the Suez Canal and Mediterranean. This is the route followed by the epidemic of 1865, a route made particularly dangerous owing to the pilgrims from Mecca.

If cholera crosses the Mediterranean it is almost certain that Europe will be invaded again from some port, and, as in former

times, the disease will be spread broadcast over the Continent.

Convinced of the impossibility of arresting the progress of cholera when it had once entered Europe, the International Sanitary Conference, held at Constantinople in 1866, endeavored to secure a plan by which the entrance of cholera to Europe might be prevented, either from Russia or from the Red Sea.

Abstracts.

OPHTHALMOLOGY, ETC.

[PREPARED BY DR. DAVID DEBECK.]

FOREIGN BODIES OF THE IRIS AND ANTERIOR CHAMBER.—FRANKE gives (*Graef's Archiv.*, xxx, 1) a very valuable analysis of all the uncomplicated cases of this nature that he could find in the literature. He includes fifty-six cases of foreign bodies in the anterior chamber, and sixty-nine cases of foreign bodies upon or in the iris.—Cases complicated by injury to the lens, etc., are not included.

In thirty eight cases the foreign body was a fragment of iron or steel, eight being in the anterior chamber. Of these eight, six were extracted, one after iritis and cyclitis had occurred, and one (encapsulated) after an interval of forty days. In two cases the fragments had remained for a long period without further reaction, and were not extracted. In the thirty cases where the fragments were in the iris, a severe reaction followed, in some cases hypopyon and in some an exudation about the foreign body. In twenty-six of these an extraction, an iridectomy, was successful, in two no extraction was attempted, owing to the subsidence of all inflammatory action, and in two cases enucleation finally became necessary.

In twenty-eight cases the fragment was of copper, nine being in the anterior chamber. In these cases, followed by extreme reaction, extraction was five times successful, twice unsuccessful, once not attempted, owing to absence of reaction, and once enucleation was necessary. The nineteen cases where the copper splinter was in the iris were followed by severe reaction, in some cases hypopyon, and, as a rule, the fragment became encapsulated. In these, fourteen were extracted and in five the extraction was not attempted.

In seventeen cases the fragment was of

stone, ten in the anterior chamber. These were followed usually by quite decided reaction, the fragment in some cases becoming encapsulated. In fourteen, extraction was made: in two, seen after many years, it was not made; and in one enucleation became necessary after six years.

In twenty-one cases the foreign bodies were eyelashes. In several of these more than one had been introduced, in one instance no less than fourteen. The reaction was in all cases very slight. In most cases where extraction was not made, an iridocyst developed later.

In six cases the fragments were wood or thorns. Very slight reaction. Extraction in two cases; not made in four, but in one of these, forty-seven years later, the extraction was made with success.

In four cases, glass or porcelain. Little or no reaction. Extraction twice; in the other two cases the fragment borne without irritation.

In twenty-one miscellaneous cases, finally, the fragments were of various sorts, or their nature not clearly ascertained. Details here not given.

In conclusion, those foreign bodies lying in the anterior chamber produce less irritation than those upon the iris, those movable more than those fixed.

As regards material, a series can be formed: the cilia, fragments of glass, etc., at one extreme, almost entirely unirritating; in the middle rank the fragments of stone, etc.; and at the other extreme, as producing most irritation, the metallic bodies, and of these, copper more active than iron.

Extraction in these cases with, or, if possible, without iridectomy, almost invariably successful. The magnet here is a valuable means. Prognosis, without extraction, even in the best cases somewhat grave.

LEBER adds to the above article a supplementary one. Among the six cases given is one strictly belonging to the above category, *i.e.*, a case of a splinter of steel lying upon the iris. Extraction by incision and use of the magnet.

These cases were examined particularly with regard to the presence or no of micro-organisms. Results in all negative.—(Leber's conclusions in regard to these foreign bodies, based upon experimental research, and given in this article, have been already referred to—*LANCET AND CLINIC*, present vol., p. 109.)

KIPP, Newark, reports (*Amer. Jour. of Ophth.*, July, 1884) nine very interesting cases belonging to the above groups. In five of his cases a fragment of iron or steel was lodged on the iris. In all, extraction and recovery. In one case a fragment of soft solder was lodged on the iris; extraction and recovery. In one, a fragment of stone upon the iris; extraction and recovery. In one case a large fragment of stone (a splinter of granite) in the anterior chamber for two years, without producing any disturbance; extraction. In one case, a birdshot in the lower part of the anterior chamber for eight years without causing irritation.

BORO-GLYCERIDE IN TRACHOMA.—Turnbull advocates (*Archives of Ophthalmology*, March, 1884) the use of this new remedy. Boro-glyceride is made by taking of boric (boracic) acid sixty-two parts and of pure glycerine ninety-two parts, and heating at a moderate heat, until it ceases to lose weight. The residue will weigh one hundred parts, having lost one-third. It resembles ice in appearance and consistency. Mixed with equal parts glycerine it resembles honey; and with this various medicines may be incorporated.

Turnbull used this in an epidemic of acute trachoma in an orphan asylum. Over thirty cases were treated. The fifty per cent. mixture was brushed over the everted lids, or dropped into the eyes twice daily. At bedtime a morsel of an ointment of the same was put into each eye. This ointment was made by mixing with three parts of vaseline and enough oleum rosæ to give proper consistency. The good results were marked; the cases began to improve in two or three weeks; and the average time of treatment until the patient was discharged from the special ward was two months.

The explanation of the action given is that due to the great affinity of this solution for water, and the rapidity with which it absorbs it, it liberates the finely subdivided particles of boric acid and these act as an astringent and as an antiseptic.

EXTIRPATION OF THE LACHRYMAL SAC. Ayres, Cincinnati, discusses (*American Journal of Ophthalmology*, April, 1884) this question briefly, and reports one case. After reviewing the usual methods in tear duct troubles which suffice for most cases,

he considers this procedure. After giving the various means for obliteration, he favors extirpation, and quotes Schreiber's conclusions where this operation is indicated.

1. Very obstinate dacryo-cysto-blenorrhœa with stenosis of the nasal duct, which, although it can still be probed, yet is of such long standing, that there is enlargement and thickening of the walls of the tear-sac.

2. In fistula of the tear-sac, especially in cases where there has been a frequent recurrence of abscesses, and where the skin over the sac and the sac walls have become blended.

3. In old catarrh of the sac, even where the canal is pervious, for it leads to the development of polypoid proliferations from its mucous membrane.

The case was a married woman of 32, blennorrhœa left tear-sac for fifteen years. Sac-walls thickened; probe passed, but sac could not be entirely emptied on pressure.

Extirpation. Recovery and entire amelioration of the annoying symptoms.

ERRATA.—In the article: "Microscopic Changes in a Tattooed Cornea," in our last number, p. 141, two sentences are obscure. In the first paragraph it should read: the pigment molecules were scattered throughout the *corneal tissue proper*, or imbedded in the corneal cells. In the second paragraph it should read: but the case presented no clinical features of epithelioma, and in *malignant epithelioma* the hollow cylinders are not found. The *italics* indicate the omissions.

TREATMENT OF OPHTHALMIC MIGRAINE. Féré writes on this subject in *Le Progrès Médical*, June 7th, as follows:

Migraine is generally considered by those who suffer from it a disease whose treatment is hopeless. These patients become accustomed to their suffering and rarely resort to the physician. There is, however, a form of migraine, the ophthalmic, characterized by the existence of a scintillating or hemianopic scotoma, a suborbital pain, nausea, and vomiting, which deserves more attention. This migraine, indeed, instead of showing itself in this relatively benign form, may be accompanied by other phenomena such as monoplegia, aphasia, hemiplegia, and partial

epilepsy. Moreover, these phenomena after having been for a long time transitory may become established as a permanent state, making the victims true invalids. Among these collateral phenomena capable of becoming permanent, aphasia is one of the most frequent. The complications of aphasia may also in some cases be present. M. Charcot recently showed at his clinic such a patient, in whom was a combination of word-deafness and blindness, of agraphia and logoplegia.

Ophthalmic migraine, at least in its complicated forms, should not be considered a benign affection. It has, on the contrary, a grave prognosis, since by a repetition of attacks it may induce a serious infirmity. Hence M. Charcot insists in such cases on the employment of active treatment. In a certain number of cases he succeeded in lessening the frequency and gravity of the attacks by the use of bromides which he employed as in the treatment of epilepsy. This method consists in giving bromide of potassium (or preferably a mixture of bromides of potassium, sodium, and ammonium) in increasing doses for three or four weeks, then returning to a dose equal to or a little larger than that at the time of beginning, according to the result obtained, and so continuing. By this mode of administration it is aimed to avoid the accidents of bromine accumulation.

It must be remembered that this treatment has a chance of success only when the symptoms are not the result of material lesion, as happens, for instance, at the onset of general paralysis.—*Boston Medical and Surgical Journal*.

RENAL CIRCULATION.—In the *Vratch*, No. 8, 1883, p. 113, Prof. J. M. Setchenoff draws attention to the fact that the blood enters from the aorta into the renal arteries under a great pressure, in consequence of the latter vessels commencing near from the origin of the aorta; on the other hand, the blood flows out of the renal veins under a comparatively low pressure, in consequence of these vessels being near to the ostium of the inferior vena cava. The author states that the chief regulator of the renal circulation is a comparatively great and constant difference between the blood-tension in the abdominal aorta and that in the abdominal part of the inferior cava.—*London Medical Record*.

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Cincinnati, August 9, 1884.

The Week.

THE CINCINNATI BOARD OF HEALTH.—

In our last issue we took occasion to make some comments on this segment of our city government, which elicited the following response from the health officer, through the *Commercial Gazette*:

HEALTH OFFICE, August 5, 1884.

To the Editor of the *Commercial Gazette*:

The article copied in to-day's issue from the LANCET AND CLINIC, of this city, is so full of ignorance and malice that an answer should be given, and I trust that you will accord space for reply. Almost every statement, whether material or immaterial, is untrue, and the style is low and vulgar. I do not know to what extent this journal represents the members of the honorable and useful profession of medicine, but I do know that no gentleman *could*, and no man of *truth would* write such an article as the one you publish to-day. The statement about a well known physician with two cases of scarlatina in his family has no truth in it. If the physician alluded to will endorse the statement made, abundant proof of its untruth will be promptly furnished. It is solemnly stated that "*Mr. Collins*" is the Registrar of Vital Statistics, whereas Mr. P. P. Cosgrave is the Registrar, and Mr. John T. Colling is clerk. These are but samples of the untruths with which this article abounds, but the most

serious of all is in his statements about the mortality statistics. He says: "*During the past year the Health Officer, with commendable ambition, has endeavored to show the efficiency of his administration by the publication of a very low rate of mortality—there has been no prevalence of serious epidemic disease during that time; however, we have very good reason to believe that his reports are incorrect, and that he does not obtain complete returns of the deaths in this city.*" I do not believe that he has one single fact upon which to base such a belief, *unless he knows of cases similar to those poor Avondale people, who were sold to a medical college at so much on foot, per head, and their bodies secretly delivered by murderous villains! If this insinuating pretender has any fact in his possession which would warrant his conclusion, let him produce it! If not, out of his own mouth he stands condemned of conduct unworthy a physician. The records are correctly kept and correctly published. No saloonist or street-paver will suffer, in character or attainments, by a comparison with such a falsifier and demagogue!*

I pass by all his personal criticism upon myself, as the public must judge. Not content with defaming a Board which can present as good a record as any that ever preceded it in this city, this conceited editor turns "lying prophet" and states that "we are even now threatened with gaunt cholera"; whereas there is not a known case of cholera *within four thousand miles of Cincinnati*. Great as is this distance, it does not measure the space which separates the "Lancet and Clinic" article from truth and decency.

Respectfully,

C. W. ROWLAND.

Mr. C. W. Rowland, the Health Officer, seems to have been agitated at reading our notice, and rushes a reply into print charging that the article was "so full of ignorance and malice" that a reply was necessary; that "almost every statement, whether material or immaterial, is untrue", and "the style is low and vulgar."

The editor of this journal stands ready to verify all the statements contained in our article of last week's LANCET AND CLINIC. Will Mr. Rowland deny that the Board of Health is composed of five saloon keepers and a street contractor? Will he

affirm that he is possessed of special qualifications to fit him for the office he holds beyond that of political partisanship? Will he affirm that he is familiar with the nomenclature of diseases and the *materna medica*? Will he affirm that he can tell whether a burial permit is or is not correctly filled out, whether the cause of death given is the name of a symptom or of a disease?

Mr. Rowland says the records of his office are correctly kept and correctly published. If Mr. Rowland had stated that *he believed* the records were correctly kept, he would approach much nearer the truth.

Cincinnati has had three Health Officers who reflected honor upon the city, the profession to which they belonged and upon themselves. As sanitarians and mortality statisticians they have no superiors. All of these gentlemen, Drs. Clendenin, Quinn and Minor, have time and again repeated to us the very many difficulties they had to contend with in order to obtain *approximately* complete returns of deaths. It seems Mr. C. W. Rowland imagines all deaths are correctly reported to his office. Has it ever occurred to him that it is barely possible for an undertaker doing business in Covington, Newport, or any of the suburbs, to enter the corporate limits of Cincinnati, obtain a corpse for burial and not report his doings to the Cincinnati Health Office? Does Mr. Rowland think the railroads never convey a body away from this city without a burial permit? Is every steamboat inspected to find out whether a dead body is or is not conveyed away from Cincinnati for burial, and that without a burial permit? Has Mr. Rowland never heard of a dead infant being encased in a candle-box and conveyed in a carriage or street car to some suburban burial place, and that without a permit? Will Mr. Rowland affirm that *all* the Cincinnati undertakers obtain from his office a burial permit before removing a body for interment?

When such officials as Drs. Clendenin,

Quinn, and Minor were so frequently met with obstacles in obtaining reports and correct returns of the causes of death, it seems to us, in the light of Mr. Rowland's positive assertion as to the correctness of his statistics, that he has truly entered upon millennial times.

As to the saloon keepers and street paver who constitute the Cincinnati Board of Health, we have nothing to say further than that men familiar with sanitary science are not likely to be engaged in those occupations.

Mr. Rowland would hardly enter a blacksmith shop to have his watch repaired, although he might know the blacksmith to be an excellent workman and an honorable man.

Mr. Rowland announces through the daily press that he has ordered a house to house inspection by his sanitary force. We have witnessed some of that inspection work. It is the veriest farce, there is no intelligent inspection about it, and we do not believe either Mr. Rowland or any man on his sanitary force knows how to properly inspect a building. This state we are ready to practically demonstrate.

It is easy to perceive that Mr. Rowland feels that he is occupying a position that he is wholly unfitted for, and is consequently in constant dread that something will happen for which a patient public will hold him responsible.

Personally we have not the slightest malice toward Mr. Rowland, and never had; never had the honor of his personal acquaintance, do not even know any of his clerks or attaches of the Health Office, and further we never had a candidate for his position as charged by one of the Board; nor do we care one iota for the political partisanship of the man who fills so important a place in our municipal government. But we are interested in having the office filled by a man who is in some degree qualified for the position.

We will be pleased to furnish Mr. Row-

land with the name of the physician who had scarlet fever in his family, referred to in our last issue, on application at this office.

—
AH! UMPH, SO. — "Gentlemen," said the professor to his medical students in clinic, "I have often pointed out to you the remarkable tendency to consumption in those who play upon wind instruments. In this case before us we have a well marked development of lung disease, and I was not surprised to find upon questioning the patient that he was a member of a German brass band. Now, sir," continued the professor, addressing the consumptive, "will you please tell the gentlemen what instrument you play on?"

"I blays der drum," replied the sick man.—*Med. and Surg. Rep.*

—
CHOLERA DISINFECTION.—We have given briefly in these columns the means to be employed to prevent the introduction of cholera into the United States, and we now invite the attention of our readers to the best means of combatting the disease should it once obtain a foothold here. It is understood, from what has already been said, that municipal cleanliness is absolutely necessary to prevent the germs of the disease from multiplying outside the human body, and the only question with which we have now to deal is, What is the best plan that can be adopted to destroy the germs as they pass from the cholera-infected person?

Cholera is not transmitted by contact, but by an organic infecting matter, passed with the evacuations of those affected, which must gain entrance into the intestinal canal to produce cholera in another. In this lies the whole secret of an effectual preventive treatment, if we can destroy the organic infecting matter the instant it has passed from the patient, cholera cannot spread; or, what amounts to the same thing, if we can prevent the infecting matter of the cholera dejecta from reaching the intestines of other persons, we prevent them from getting cholera. Our efforts in this direction, therefore, constitute the true preventive treatment of this disease. If we can only preserve the drinking water from contamination, it is impossible for cholera

to become epidemic. The leading principles upon which we must rely for effecting this object are, first, to destroy the organic infecting matter as it passes away from the patient by means of a solution of corrosive sublimate, or of sulphate of iron, or by some acid reagent, taking care that the evacuations thus treated are buried in the earth away from wells or sources of water supply; and secondly, to disinfect or destroy all articles of clothing, furniture, or, in fact, anything to which the choleraic discharges could adhere.

The popular idea of a disinfectant is a something which will destroy a "bad smell," while the fact is, such destruction may not affect the fomites of cholera, which are almost odorless. A cholera disinfectant must be a germicide, or it is worthless.

The simplest and cheapest disinfectant for this purpose is a solution of bichloride of mercury or a saturated solution of sulphate of iron (copperas). A solution of bichloride of mercury is readily made by adding an equal quantity of common salt as a solvent, and dissolving in water in the proportion of 1 gramme of the mixture to 1000 cubic centimetres of water; and a saturated solution of copperas by dissolving all the powdered copperas a given quantity of water will take up. Both of these disinfectants are entirely odorless, and the former colorless.

A small quantity of either of these solutions should be placed in a vessel receiving the discharges from a cholera patient, and another portion poured over them immediately after the vessel is used. Then the contents of the vessel should be emptied into the water-closet, buried, or better still, thrown into a furnace. All clothes or domestic articles that can be washed which have been contaminated, should be soaked in a solution of one or the other of these disinfectants, and if the furniture or floor has received any of the fomites, it too should be thoroughly washed with the bichloride solution. These solutions can be used about the premises, if necessary, with a sprinkling-pot, and all suspicious places wet down and thoroughly disinfected.

There are many other cheap disinfectants, but they are open to the objection of disagreeable vapors, such as chloride of lime, carbolic acid, sulphurous acid, etc. The bichloride solution, besides being odorless, is no more dangerous than any other

disinfectant that can be named, while it is more cleanly and quite as readily prepared, as well as being cheaper than the now favored carbolic acid.

Isolated hospitals for cholera patients who are unable to provide for themselves, and their immediate removal to these hospitals upon the appearance of the first symptom—the *malaise* which usually precedes cholera—would simplify the management of the disease, and with absolute cleanliness, proper disinfection, a well-regulated diet, and unpolluted water, all fear of an epidemic of cholera in the United States may be dismissed, even should it escape our quarantine guards and appear in our midst.—*Medical News*.

OVARIOTOMY IN COWS INCREASING THE SUPPLY OF MILK.—In the *Medical Times and Gazette*, May, 1884, an article appeared on the difficulties which attend the securing and maintaining a regular supply of pure, fresh, cow's milk. In America an attempt has been made to show that a cow will yield better milk and give a steady supply all the year round if the ovaries be removed. The operation is not a difficult one, and the beast is said to enjoy it after the first incision is made, and especially while the hand is searching for the ovary.

An incision is made in the left flank, under a twenty per cent. carbolic spray. When the uterus is reached, the operator is guided by one of its horns to an ovary, which is removed by an *écraseur*, or by simply twisting it between the thumb and index finger; the second ovary is sought and treated in a similar way; the external wound is closed with a few interrupted sutures. The cow is kept in a stall on low diet for two or three days, but is turned out to pasture quite well at the end of a week. It is stated that a cow thus operated upon yields 5,110 quarts in twelve months, for more than eleven years, while a good milker in the natural state yields about 2,736 quarts a year.

AN UNUSUAL ACCIDENT.—An amusing story about a local doctor was told a short time since, for the accuracy of which a contemporary is responsible. A hurried ring at the door-bell after midnight brought the doctor quickly to the window, which he threw up to inquire the cause of the hasty appeal to his monitor, and leaning forward, he fell through the window on to

the pavement beneath. The servant girl who had run with the message, on seeing the sudden appearance of the white-clad form, fled with fright, shrieking "A ghost! a ghost!" To make matters worse, an untoward addition to the scene was presented by the Doctor's wife, who, finding that her husband had disappeared in this unexpected manner, and hearing the voice, hastened into the street to his help. The wind blew the door to as soon as she got through it, and, in a condition of anything but full dress, the anxious wife came to the rescue of the unfortunate husband, whose knee-cap had been broken by the fall.—*Medical and Surgical Reporter.*

ON SOME DISPUTED POINTS CONCERNING THE NATURE AND CONTAGION OF CHOLERA.

By D. H. Cullimore, M.D., M.K.Q.C.P., F.R.C.S.I.—It is not my intention in the present paper to give anything like a complete description of the history, origin, and propagation of cholera. My effort is of a far more modest character, and will be limited to a discussion of those points of special interest brought prominently before the profession, and indeed before the public, during the late epidemic in Egypt, and concerning which considerable disputation, and even heated arguments have arisen.

It must have been noticed by all who have given much attention to the subject of cholera in recent times that grave difference of opinion exist as to its etiology and propagation, amongst authorities, the highest, most respected and experienced. Many eminent authorities in India deny its contagiousness (this term I apply in its largest sense), and attribute its epidemicity to some occult, atmospheric, or telluric causes, of the nature of which they are ignorant; such as earthquakes, stillness, heat and humidity of the air. Gentlemen of this school, which I may denominate the Calcutta school, are opposed to all measures of restriction and quarantine, and holding such views they are logically so.

All Continental and American authorities, and many of high standing amongst our own countrymen who have gained their experience either at home or abroad in our great dependancy, are in favor of the contagious theory, and maintain that through the influence of a specific microbe, germ, or poison, the disease is communicated either directly or through the medium of

contaminated water, air, soil, etc., from the sick to the healthy.

Thus so far, as we find many of ourselves in harmony with our continental brethren as regards the propagation of the disease, we might, *a priori*, expect harmony as regards the measures of prevention to be enforced. Such however, is not the case, for while the Continentals to a man are in favor of quarantine the Englishmen who have favored us with their opinions seem inclined to support the views of the non-contagionists, who have logic as well as theory to support *them*. To what then are these differences of opinions due? Are they capable of explanation without accusation of barbarism on one side and selfishness on the other? I think that most of them are, and in the course of this paper it will be my constant endeavor to try and reconcile them on other grounds, such as the intrinsic difficulty of the subject, the effect of early predilection, and of different fields of observation in later life.

First, as to the nature of the fundamental cause! That this is a specific germ or bacillus appears to me to be the only supposition that can attempt to explain satisfactorily the great variation in the influence of all other etiological conditions.

The recent discovery of the cholera microbe, minute stabiform germ like the bacillus of glanders, in the utricular glands of the lower portion of the smaller gut tends to confirm this view, though as things present, while we are justified in saying that the parasite is peculiar to cholera, for it has been found in Indian, French and Egyptian cadaveræ. Its relations, whether as a cause or result of the disease, are not known. Until, therefore, the bacillus is found to set up cholera in man or the lower animals, its discovery contributes nothing to the knowledge of the contagiousness of the disease. Even the onset of cholera after inoculation, in the absence of corroborating causes, though it would render its contagiousness probable, would not *mutatis mutandis* render it certain. The modifying influence of climate and the effect of other accidental surroundings, would limit its universality under everyday conditions.

Crudelli has discovered the bacillus of ague, and can produce this condition by inoculation, yet we do not on that account rush to the conclusion that intermittent fever is contagious, for stronger evidence

which we cannot overlook teaches us the reverse. Thus it is not by the discovery of a special bacillus, either of cholera, of leprosy, of ague or of tuberculosis, or even the reproduction of the disease by its injection into the system that the contagiousness of these affections must be determined under the varying conditions of every day life, and in climates and localities so different and remote.

Such a discovery, however, in addition to epidemicity, and particularly to such worldwide epidemicity as we see in cholera, when corroborated by observation as to the spread of the disease, brings additional support to the contagious theory by concentrating what was hitherto indefinite and diffused.

That this parasite is of paludal and vegetable origin there can, I think, be no doubt, for one can easily understand that a minute parasite of a specific nature, and peculiar to certain Indian districts, may develop its action wherever conveyed, under conditions either within the body or without it, favorable to its development and propagation. In this power of sustaining life in every climate it differs from the bacillus of ague, which, although of paludal origin, and active enough within its limited sphere, is a poor exotic, speedily designed to perish on its removal therefrom. These favorable conditions are external and internal, the former having reference to certain insanitary states of the soil, water, air, and human surroundings; the latter having reference to certain favorable conditions of the individual, such as fatigue, alcoholism, physical disease, and, above all, collapse, and great depression of the nervous system. The latter cause is especially worthy of note, as it explains the onset of cholera after great national calamities, as for instance, famine in India and unsuccessful war in Egypt. This theory also explains why it is that stagnant fluids, containing more or less organic matter, are the chief vehicles of the cholera germs, as they are of all other proto-mycetic forms. It is owing to this that the ground water, when the wells are low, and polluted with the contaminated soil, the drinking water and washing water, play such an important part in the production of this disease. But no favorable condition of soil, no amount of filth, or polluted water are capable, *per se*, of causing cholera. They only become so when they furnish the germs with the

proper nutritive matter, when other special conditions of their growth are presented, and when the means of communication with the human organism is open. The germs may also spread by becoming attached to solid bodies, or in thoroughly infected districts by polluting the atmosphere.

Given the germs and the external favorable conditions, is this all that is necessary? Certainly not! In addition there must be the predisposing external cause — a crack in the armor of the individual vital economy, such as the mental depression above referred to. Cholera is not peculiar in this, but conforms to the general law. But leaving this out of account, the severity of an attack is in a direct ratio to the size of the dose, or rather, of the virulent activity of the poison. Thus an epidemic of cholera is surrounded by a zone of diarrhoea. This the mycetic theory explains, for it is owing to the comparative lesser capacity of the air for germs. The lowest organisms, as Leber informs us, and as the followers of Sir Joseph Lister are well aware, live on the air and when attached to solid bodies. But they lead a much less active life, and their capacity of increase is much diminished outside of fluids, and thus while the air and other substances may contain and transport cholera, they are less active agents than the fluids in which the parasites have already undergone multiplication.

Again, cholera comports itself differently at different times, under identical conditions of soil, water, locality and climate. A town may escape on one occasion only, however, to suffer quite severely on another. This is owing to the variety of the conditions favorable or the reverse to the development of the germs—a state of things common to all fauna and flora. Even under seemingly favorable states, the germs, having attained excessive exuberance, become worn out, and thus fall an easy prey to the innocent but younger and more vigorous bacteria of the pools, or even of the intestines, which suggests the idea of cultivating and inoculating these choleraic germs, so antipathic to the active cause of the disease. This plan might prove as effectual as it would be infinitely less hazardous than homœopathic injections of attenuated germs of the same disease.

To sum up, there are five conditions necessary for the development of the disease: (1) a special germ, (2) a favorable medium.

for development, (3) sufficient contact with the organism, (4) only a slight development of the choleracide bacteria (bacteria which kill the cholera germs), and (5) an individual predisposition or condition incapable of resisting the power of the poison.

This view, then, I maintain, explains more satisfactorily than any other the ever varying and mysterious phases of cholera.

First.—It explains them better than any theory directed to the influence of water, air, soil, filth, sewage, etc., for these conditions are either permanent or periodic, while cholera appears only at long and irregular intervals, and always, unless its history is to be recast, by slow and steady approaches from its epidemic home in India.

Second. — It explains them better than any causes referable to malaria, epidemic influence, atmospheric or volcanic conditions. The meaning of the first two is incomprehensible, they are words only so far as our present object is concerned. Certain portentous and gloomy atmospheric states, tending to disturb the equanimity of the feathered tribes, and to engender the mutual animosity of the denizens of the woods, have been observed, but no reliable information has been recorded. Thus the blood red sunsets of London during the last week of November passed away without connection with any calamity. The volcanic theory of Von Lier is but a passing eruption, as was pointed out by Sir Joseph Fayrer, who showed clearly enough that the endemic region of cholera in India was not of volcanic character.

Thus by negative as well as positive evidence have I shown the vegetable and paludal nature of the cholera germ, which is further supported by the frequent outbreaks along the malarial deltas of Indian and Egyptian rivers.

HASTE AND WASTE.—A writer in the London Lancet deplores the habit of assuming an air of excessive haste, which he complains is now so prevalent in business life.

“The moment a lad takes his seat before the lowest desk of a house of business, he begins to make believe to others, and and quickly to himself, that he is overwhelmed with work. Merchants and managers require this farce to be played, from the heads of departments to the youngest boy. The result is the formation of a mental habit of hurrying, which before long

becomes the key-note and the motive of the whole life. It is the custom to write and speak as though commercial men were really as much pressed for time as they appear to be, and wholesome, but not very intelligent, counsel is offered to effect that it would be better to “get up earlier,” and to do this, and avoid that, with the view of preventing the physical dangers and evils which result from running to catch trains, eating hasty luncheons, and the like.

“Now, all this haste and turmoil, prejudicial and often ruinous as it is, is artificial, and only done on the principal that “Sawyer, late Nockemorf,” was called out of church by his boy in the middle of the second lesson.” The writer continues: “The old merchants of London, who amassed large fortunes and founded families, were wont to stand at their doors and were never in a hurry. What would be thought of any one who dared to seem leisurely now? If those who furnish city men of to-day with medical counsel would go to the bottom of things, and try to cure the evil of the mental habit, they would do far more to prevent nervous disease and to arrest the thousand and one troubles of body and mind which spring from work and high pressure, and hurry, worry, and waste of energy, than by dealing in detail with particular forms and fruits of this evil, as is their wont.”

We all need to learn that diligence is better than haste.—*Louisville Med. Jour.*

THE oil of white birch bark (*oleum betulæ*), which gives to Russia leather its peculiar aromatic and lasting qualities, when dissolved in alcohol, is said to be excellent for preserving and waterproofing fabrics. It renders them acid and insect proof, and does not destroy the pliability of the fabric.—*Chem. and Drugg.*

JEFFERSON MEDICAL COLLEGE. — Dr. Robert E. Rogers, Professor of Medical Chemistry and Toxicology in this institution, has just tendered his resignation of the Chair, to which he was elected in 1877.

FOR a bruise, ammonium chloride, alone or in vinegar, is as good an application as can be made, Prof. Brinton teaches.

PROF. DA COSTA remarks that diabetic patients may sweeten their food with glycerine, to make it palatable.

Selections.

MEDICINE.

A CASE OF ACUTE POLIOMYELITIS IN THE ADULT.—John Van Duyn, M.D., Syracuse, N.Y., contributes the following to the *Archives of Medicine*:

History: F.D., a clothier's clerk, twenty-three years old, of average height and good muscular development. Had worked on a farm during summers until 1880, which year he spent at school. Early in 1881 he entered a clothing-store as clerk, but in the following November he had malarial fever, and in February, 1882, had a moderately severe attack of typhoid fever. From the time of his recovery, in early spring, until the following October, he worked on a farm, and then resumed his position as clerk. Had never had venereal disease, and had never been intemperate in the use of alcohol.

August 24, 1883, he walked nine miles, arriving at his destination at two o'clock the next morning, went to bed at three o'clock, and slept six hours. At noon, he engaged with others in "putting" a stone, which weighed nearly forty pounds, and in jumping. The stone was "put" from the shoulder by the right arm forward, and thrown by both arms over the head backward. This contest was most violent and lasted two hours. Then he ate a hearty dinner. At 4:30 p.m. he walked over three miles, then rode in a stage two miles, and in the cars ten miles, after which he walked with friends in the city, and finally went to bed at eleven o'clock. The next day he felt some soreness, which, in a day or two, entirely passed away. Until the end of the two weeks following, his life was as it had been before. By his exertion he did not become overheated, was not chilly, nor did he take cold. On September 7th, when he woke in the morning, he felt severe pain between the shoulders, equal in intensity on both sides of the spinal column, which was greatly increased by turning the head to either side. He went to work, but during the day he felt chilly and his face was very red. In the afternoon the right hand began to lose its grasp, so that he could hardly hold the pencil in making sale-tickets. The power to use this hand grew gradually less, until three days later, it disappeared entirely. That evening he rode ten miles by rail.

He could not sleep because of headache, chills, and nausea. The soreness became universal. The second day, he got up, could raise the right hand to his face, but could not button his clothes with it. He walked to see the village doctor, but found the strength of his legs failing to the extent that, in the afternoon, when he rode home, three miles distant, he could with difficulty get into, and out of the wagon. Went to bed at night and "took a sweat." The third day, felt sick and sore, but could get up and even went out of the house. When he tried to put on his hat with his left hand, the right being powerless, he found it impossible, and with difficulty only could he lift this hand to the latch of the door. After he had gone to bed at night he found he could not raise either elbow from the bed. From this time on he was confined to the bed. He suffered from general soreness. To breathe gave him pain, and he could not lie on either side, because of the pain which the pressure on the chest gave him. The whole body, excepting the head and neck, was so sensitive that suffering was caused by the gentlest touch. During the following three or four days paralysis of motion became general in the extremities, but not affecting the head, neck, thorax, and the left forearm and hand. Could not raise his heels from the bed, but while on his side, could partially flex the thighs on the abdomen. Constipation became severe, but the bladder was unaffected. During this time the temperature was twice observed and recorded. On the fourth day it rose to 102°, a few days later to 101°. After the tenth day improvement began to be manifest, and continued until the second week, when he could get into a chair, but could not stand, nor could he raise his feet from the floor. The soreness had receded to the shoulders. At the end of the third week, could walk with assistance, but could not lift the feet higher than enough to prevent dragging. Constipation continued and did not disappear until two months later. The right arm was powerless. The left arm was recovering strength rapidly. This arm had not been affected below the elbow. At the end of the fourth week he could walk alone, the right leg having regained considerable strength, but the left leg could as yet be moved only with difficulty. At this time he began to feed himself again, by using the left hand after the elbow had been rested on the

table. Throughout there had been no abnormal sensations, no numbness. During these four weeks he lost sixty pounds in weight.

Examination, January 12, 1884: Complete loss of voluntary motion in, and great atrophy of all the muscles supplied by the right brachial plexus, excepting those supplied by the fifth and sixth cervical roots. The right hand, with extreme atrophy in all parts, was *en griffe*. The muscles of this extremity, including those of the shoulder, were unaffected by faradism, but all, with the exception of those in the hand, reacted to strong galvanism. On the left side the supra-spinatus and infra-spinatus were greatly atrophied, the pectoral muscles less so, while all contracted under faradism. The elbow could with greatest difficulty be raised to the level of the shoulder. Below the shoulder the left arm was normal. Power to raise either knee was diminished. The left anterior tibial was not under control of the will and was atrophied, but reacted to strong faradism. Because of the loss of this muscle the foot falls in extension when raised.

To the present time, May 16th, treatment by electricity has been almost daily. All the muscles of the right upper extremity contract under galvanism, while the brachialis anticus, biceps, sup. longus, and pectorales major and minor contract under faradism. The pectoral muscles, biceps, and anterior brachial show decided contractions by the will. The nutrition of these muscles under the influence of the will so far exceeds that of the others that their growth causes them to stand out in marked contrast with the surrounding atrophy. The will has control of all the affected muscles of the left shoulder and of the left anterior tibial.

This typical case of acute spinal paralysis is recorded because of the clear history of the progress and retrogression of the paralytic state, and the manifest relationship between the disease and the violent muscular exertion which preceded it. Should the gymnastic violence be conceded as the cause, than which no other is apparent, then interest must attach itself to the length of time which intervened between the cause and the outbreak of the disease, and to the fact that while both extremities, upper and lower, were affected during the fever, the muscles which remained paralyzed and atrophied were those most vio-

lently exercised, and the severity of the results and their permanency are in direct ratio with the use of the muscles.

AN UNIQUE CASE OF POLIOMYELITIS ANTERIOR ACUTA OF THE ADULT.—Ambrose L. Ranney, M.D., contributes the following interesting case to the *Archives of Medicine*:

I desire to call attention to a case which has lately come under my personal notice, and which seems to present some very striking peculiarities. I refer to a marked attack of poliomyelitis of the acute (?) form in the adult, which was followed by a paralysis of the leg and arm of opposite sides. Although in the literature of the subject different forms of paralysis—such as monoplegia, paraplegia, hemiplegia, and paralysis of all four limbs—have been recorded, I am unaware of a case where there has been the peculiar combination of symptoms which I now record. In Seguin's brochure upon this disease, published in 1874, he cites from Duchenne four cases, three of which had all of the limbs affected, while one developed paraplegia. Those selected also from Charcot and Gombault, as well as the personal cases cited by that author, do not contain a single instance of a similar type. In my search through the various text-books and the journals published since that date, I have failed, as yet, to detect a parallel instance. If I am correct in my belief and in my diagnosis, the case presented is unique.

The history of the case is published as it was noted at the time of my clinical examination. I hoped to be able to publish a more detailed statement in regard to the exact measurements of homologous parts, the electro-muscular reactions, etc., but I was disappointed by the patient failing to keep an engagement made with me for that object. I was unable also to obtain a photograph of his limbs for the same reason.

The history obtained from the patient is given in full.

A young man presented himself at one of my clinics in Burlington, Vt. (April 27, 1884) with the following statement of symptoms:

Age twenty years. Unmarried. Occupation—that of a laborer. In the summer of 1882, patient was employed in a saw-mill, and was obliged to run a treadle with his left foot and to push boards against a

circular saw with his right hand. Shortly previous to the time of the development of his nervous trouble, he was severely stung by a swarm of bees upon the exposed portions of his body. He noticed no particular results from the accident, however, and the wounds healed kindly. After a day's fishing, the patient slept upon the wet grass and was attacked immediately with a marked febrile disturbance, which was followed by a paralysis of sudden development.⁽¹⁾ The paralysis was confined exclusively to the *left foot and leg*, and the *right upper limb* (the ones he constantly employed in his daily vocation). The leg-paralysis disappeared with great rapidity, and in a few weeks he was able to use the right and left lower extremities with equal power. The right arm, however, never regained its power, and began to give evidence of rapid wasting of the muscles of the shoulder and hand. He has never noticed a wasting of the muscles of the lower extremity.

On examination, the grasping power of the right arm was almost abolished; the muscles of the thumb were atrophied to such an extent as to allow the fingers of my hand to perceive each other with distinctness when they grasped the hand between the metacarpal bones of the thumb and the index-finger. The "bird-claw" deformity of the hand was partially developed, but the interossei showed a less marked wasting than existed in the thenar eminence. The deltoid was almost completely destroyed, and the muscles of the scapula were also affected in a marked degree. The circumference of the limb was less than that of its fellow. A very strong faradic current produced slight contractions of some of the muscles of the hand and forearm, but the entire limb seemed to respond very feebly to the current, and no electro-reaction occurred in the muscles of the thumb. No constant-current battery was at hand; so that the "reaction of degeneration" was not positively demonstrated, although it would undoubtedly have been found in many of the muscles.

The lower limbs exhibited no atrophic

¹ The patient stated at first that the paralysis came on "inside of a week"; but on being questioned sharply, he stated that "he was not sure but that it occurred in two days." He was positive, however, that it developed not more than seven days after sleeping on the wet ground.

changes or loss of muscular power. The sensibility to tactile sensations and the impressions of pain and temperature were normal in all of the limbs. A careful examination was made of these points. The patient had been subjected to massage and the faradic current at intervals for months, but without apparent benefit. The bladder and rectum had never given any evidences of impairment.

Certain peculiarities in this case struck me, as follows:

1st. The continued use of the right hand and left leg seemed to act, to some extent, as an etiological factor in the case. The cord was apparently attacked in those segments that had been subjected to excessive and continuous use, and the lateral half of the cord had been involved in each instance. The left arm and right leg, which were not employed in his occupation, were not attacked.

2d. The leg-paralysis recovered quickly and perfectly; but the arm and hand never regained their power. He had been severely stung upon the arm but not upon the leg, although this may not have been more than a coincidence.

3d. The cells of the anterior horns in the cervical segment degenerated rapidly, as evidenced by the rapid atrophy of the shoulder and hand, while those of the lumbar segment experienced no permanent impairment and regained their function in a few weeks.

I can see no elements of doubt as regards the diagnosis of this case. The exposure, the febrile symptoms, the paralysis of sudden advent, the subsequent atrophy of muscles, and the monoplegic type of the palsy, coupled with the fact that the limbs involved were on opposite sides of the body, can be explained to my mind in no other way. The quickly-developed loss of farado-muscular reaction also adds a crowning feature to the list of symptoms. The case seems to be a particularly unique one of this comparatively rare form of disease.

TREATMENT OF CHOLERA INFANTUM. — Dr. James Craig, of Jersey City, publishes a paper on this subject in the *Archives of Pediatrics* for March 15, 1884, in which he says that the treatment of cholera infantum varies very much, and depends upon the physician's ideas and experience. The indications are to prevent nausea and vomit-

ing, support the strength and check the diarrhoea. If nursing, no change in diet is made, but care should be taken not to nurse the child too often or too much at a time. If bottle-fed, the milk is stopped, and stale bread soaked in hot water, with a little sugar and brandy added, or Robinson's prepared barley, or arrowroot, made with water, given in small quantities, answer a good purpose. Milk is also prohibited where the child is weaned, but is gradually resumed as it improves. Where the child is weak, a teaspoonful of brandy to six or seven of water, a teaspoonful of which is given occasionally. Where a more powerful stimulant is required, carbonate of ammonia, in one or two grain doses, mixed in syrup of acacia, is used, according to the age of the child.

For the gastric and intestinal derangements his favorite prescription is:

R. Liq. acidi carbolici, 5 per cent, ʒj.
Bismuth subcarb,
Pepsini sacch., aa.....ʒj.
Aq. cinnamomi.....ʒij.
Syr. aurantii cort.....ʒij.

M. Sig. — A teaspoonfull every two or three hours until relieved.

He also applies a spice plaster over the abdomen, composed of the following:

Powdered cinnamon, cloves, nutmeg, ginger, allspice, of each, ʒij., honey and glycerine, of each, ʒvj., and white of one egg.

M. And spread on cheese cloth or fine mosquito netting. It may remain on, over the region of the stomach and bowels for hours and days without blistering—it merely reddens the skin, and is an excellent counter-irritant. A bandage should be applied over it to keep it in place.

Change of air frequently brings about convalescence in a very short time. When that can not be had, the next best thing is to take the child out daily, for an hour or two at a time, early in the morning and late in the afternoon. While in the house, the child should be in a well ventilated room, free from draughts.—*Med. and Surg. Reporter.*

SYCOISIS.—The *Wein. Med. Blätter* of April 24th contains an article by Dr. von Hebra, of Vienna, on a new treatment of sycosis. Being dissatisfied with the customary maceration of the skin by means of diachylon ointment, he sought, some years ago, to discover some means by which this

might be prevented. He now employs almost invariably the following plan of treatment. Any hair which may be left on the parts affected is cut as close as possible with scissors, and some emollient ointment applied for twenty-four hours, care being taken that it does not contain lead, which would form a compound with the sulphur to be subsequently employed. The crusts being by this time broken down, the part is shaved, by which means the tops of the pustules are removed and their contents evacuated. The whole of the affected surface of the face is then covered with a modification of Wilkinson's ointment, included in the Hungarian pharmacopœia under the name of 'Unguentum contra scabiem,' which is covered with a piece of flannel and secured by a calico bandage. This dressing is changed every twenty-four hours, when the contents of each pustule are pressed out, and the hair which is usually found in the centre removed. When all the pustules have disappeared, the redness and scurf are removed by the application of an ointment containing one part of zinc to three of vaseline, and the cure is complete, in some cases within a few days. Several cases are cited in illustration.—*London Med. Record.*

CREASOTE IN DISEASES OF THE AIR PASSAGES.—Dr. Pick, of Coblenz, (*Deut. Med. Wochen.*) says that the action of creasote in consumption, recently much extolled by the French (Bouchart and Gimbert), as well as the successful experiments of Frantzel and Curschmann, induced him to employ this much discredited remedy in a series of cases, and to make a summary of the results. Creasote was given by the author both internally and externally. For external use he employed a mask which being a modification of Hausmann's apparatus, could be worn by the patients without much difficulty, and even during the night. The creasote was dropped on cotton-wool in the mouthpiece and was inhaled by deep inspirations. The apparatus has the advantage over Hausmann's that the nose remains free, and the troublesome irritation of the nasal mucous membrane is avoided. Dr. Pick gave the creasote internally either with cod liver oil, or according to the French formula: Kreasoti, ʒij, tinct, gent., ʒo, spirit vini rectific. ad., ʒv, vini Malag. ad., ʒo. The drug was well borne by the patients both internally and in the form

of inhalation, and Dr. Pick speaks of one case where there was a decided antipathy to cod liver oil, but where it was taken quite well in the above-mentioned combination. Gastric disturbances or toxic effects were seldom perceived. Among the cases treated by the author was one of croupous pneumonia passing into gangrene, thirteen of tuberculous infiltration in persons with hereditary taint, and one of sudden hæmoptysis after long-standing catarrh of the lung. The results were very good in all sixteen cases; after a short use of the drug, diminution of the cough, considerable reduction of temperature, improvement of the general health, and the decrease in the expectoration quickly ensued; and the hæmoptysis mentioned above, which had not yielded to a fourteen day's treatment with ergotin, was speedily checked by a few hours' inhalation of creasote. This may, perhaps, be attributed to the styptic action of the creasote, which, besides its disinfecting and antipyretic properties, coagulates albumen and contracts the capillaries. A lasting effect was, however, observed to follow the employment of creasote only in catarrh of the apex, or commencing infiltration. In advance phthisis, where extensive disintegration of tissue with great diminution of strength was already present, the only lasting result was the alleviation of isolated symptoms. Dr. Pick lays particular stress on the quality of the creasote, and attributes its actions only to that got from beech-wood-tar, in contradistinction to the kind more frequent in commerce, obtained from coal-tar, whose qualities, so far from being useful, only set up gastric disturbance.—*Medical and Surgical Reporter*.

RHEUMATIC HYPERPYREXIA.—Dr. A. H. Carter records a case of this kind in which a good result followed the employment of the graduated cold bath. In discussing the cause of the excessive fever he points out that it is the changes which take place in the tissues themselves during the process of oxidation which must be regarded as the proximate cause of fever. These changes own some restraining influence, probably they are under the control of the nervous system. Assuming this, it is easy to see how that central nervous disturbance, characterized by a certain degree of depression would be attended with the loss and abolition of the controlling influence referred to, and would be followed by unrestrained destructive al-

terations in the tissues, and the production of an excessive amount of heat. This theory receives support from the presence of nervous symptoms in these cases, for delirium and insomnia to a greater or less degree are always present. As in these cases the delirium often precedes the rise of temperature, it is clear that it cannot be attributed to this cause, and both probably depend on some central nervous disturbance. The occurrence of delirium in rheumatic fever, if not due to some complication, such as pericarditis, should make us look out for hyperpyrexia.

—*Med. Review*.

THE ANTI-EPILEPTIC ACTION OF BROMIDE OF POTASSIUM.—In the *Neurolisches Centralblatt*, No. 2, 1884, Dr. P. Rosenbach has an article on this subject. Bromide of potassium administered to animals decreases the excitability of the cerebrum, so that stronger currents are necessary in order to call out, through irritation of the motor centres, the minimal disturbances of the corresponding muscle groups. This has already been ascertained by Albertoni. Rosenbach now concludes that the cerebral cortex is the point of origin of epilepsy and of epileptic attacks, and has undertaken to determine upon what part of the cerebral mass bromide of potassium acts more particularly. With this view he irritated the motor region of the uninjured gray matter, and after destruction of the same, both before and after using the drug. From this it was determined that on sufficient intoxication with bromide of potassium (in dogs) the excitability of the cerebral cortex diminished, or entirely disappeared, whilst the excitability of the underlying substance remained almost unchanged.—*Deutsche Med. Wochenschrift*.

NEURALGIA IN DIABETES.—Besides the usual forms of neuralgia, which are met with in diabetes, peculiar neuralgic pains often set in, which seem to stand in intimate connection to the malady in question. Worms, Berger, Raymond, and others, have specially inquired into these neuralgias, and they had come to the conclusion that the quantity of sugar excreted bore a direct relation to these pains. Carmillion (*Jour. de Méd. de Paris*, 13, 1883,) has recently again taken up the subject, and from a large number of observations he makes the deduction that while these neuralgias doubtless becomes worse with every

aggravation of the diabetes, and improve with every amelioration of the original disease, the quantity of sugar excreted has little influence in that respect, but it is the general condition of the patient, which, in diabetes as well as in other maladies, decides the degree of severity in the complication.

The neuralgias of diabetes have the peculiarity of always being symmetrical. Of twenty-two cases, eighteen happened on both sides. Most frequently the sciatic nerves suffer. There is no special treatment necessary, as the general treatment, which influences the diabetes, also improves the neuralgia.—*Medical and Surgical Reporter*.

CAN LOCOMOTOR ATAXIA BE CURED?—Dr. G. M. Hammond, of New York, read a paper before the American Neurological Association on the above subject, concluding as follows:

1. That the absence of the patellar tendon reflex in locomotor ataxia is not always caused by sclerosis of the posterior columns.
2. That sclerosis of the posterior columns may exist without being accompanied by the ordinary prominent symptoms of locomotor ataxia.
3. That congestion of the posterior half of the spinal cord may give rise to most, if not all, of the symptoms of locomotor ataxia.
4. That it is impossible during life to make a differential diagnosis between posterior spinal sclerosis and posterior spinal congestion.
5. That posterior congestion is curable.
6. That there is no evidence to show that sclerosis, once existing in the spinal cord, has ever been removed.
7. That those cases of so-called locomotor ataxia which have been cured are simply cases of spinal congestion more profound in the posterior half of the cord.

MERCURY IN PLEURISY. — Dr. J. A. McDoughall, of Edinburg *Practitioner*, for June, 1884, believes that mercury will cut short the morbid action in pleurisy. In the case of a feeble and exhausted woman he gave blue pill, gr. ij., with squills and digitalis aa gr. j., night and morning, with the happiest results, and he concludes that in such a case as this, the subject of which was a broken down and feeble woman, in whom acute disease had already induced very marked asthenia, one can use with

success a drug, the debilitating effects of which form, in the opinions of many, the greatest objection to its employment, the field of its usefulness becomes, in his opinion, a great and wide one. So thoroughly is he convinced of its usefulness that for many years he has treated no case of pleurisy without its aid. — *Medical and Surgical Reporter*.

TREATMENT OF METRORRHAGIA BY SAVIN AND RUE.—Chéron states (*Revue de Therap.*) that these drugs are often very useful, even in cases where ergot of rye and ergotin have failed. They are best administered in the form of pills, containing each five centigrammes of rue and the same quantity of savin, in powder. The ordinary dose is one pill night and morning. — *London Med. Record*.

SURGERY.

TREATMENT OF EPILEPTIFORM NEURALGIA, OR THE SO-CALLED INCURABLE FACIAL TIC. By W. J. Walsham, F.R.C.S., in the *Practitioner*.—"Although," says Trousseau, ("epileptiform neuralgia from its nature must be considered as an almost incurable affection, I have always felt it a duty to combat it by therapeutic means. * * Of all the therapeutic agents that I have tried, and I have tried a great number with the utmost perseverance, opium is the one that has given me the least disappointment. But remember this, gentlemen, that opium in the treatment of epileptiform neuralgia must be given in large doses." And in large doses indeed did Trousseau give it—ten, twenty, or even thirty grains daily were in some cases found barely sufficient to relieve the pain; one patient took as much as four hundred grains a day, and spent 1,200 francs during one year alone in the purchase of the drug. Here is a choice of evils; Either to bear, as best one may, the agony of this terrible malady, or to be reduced to the pitiable condition of an opium or morphia habitue.

Since Trousseau published his admirable but discouraging lecture on epileptiform neuralgia a new field for the relief of pain has been opened to us; and nerve-stretching, if it cannot cure the affection, can give the sufferer the prospect of months or years of immunity from it.

1 Clinique Medicale de l' Hôpital-Dieu de Paris, Paris, 1868, pp. 145-161,

During the last few years I have had a series of six cases of this interesting form of neuralgia under my care, but it is not my intention to relate them in detail, as, although in none of them has there as yet been any return of the pain, I do not wish to publish them until a sufficient time has elapsed to show whether the, at present, apparent cure proves permanent. It is merely desired here to call attention to a method of treatment which, although it may not permanently cure, has at any rate already given to these patients many months and, to some, years of freedom from their sufferings.

As the disease is a somewhat rare one, it may be well, before passing to the treatment, to say a few words on the symptoms. The terms epileptiform neuralgia and incurable tic are, to say the least, unfortunate ones, inasmuch as the former implies that the affection is a form of epilepsy, which I think cannot now be affirmed of it. The terms, however, are here retained as those by which it is best known.

The disease is characterised by neuralgic paroxysms occurring in one or more branches of the fifth nerve, and is always, as far as I know, confined to one side only of the face. The pain as a rule is not constant, or, if so, it increased during the characteristic paroxysms. They seldom last more than half a minute at a time. In one of my patients they are said to last half an hour; but they seemed to be rather a series of paroxysms following in quick succession than a single long one. The pain almost invariably begins at one spot, that is, in one branch of the nerve, thence centrally spreads along that branch, and is radiated to the other branches of that division; or it may be transmitted to a second or even to a third division of the fifth. A paroxysm may be determined by very various causes—speaking, eating, washing the face, a draught of cold air, a sudden noise, pressure on a certain spot a fly settling on the beard—in short, anything even of the most trifling nature. During a paroxysm the action of the patient is characteristic. He rubs the part violently, or grasps his head between his hands, stamps upon the floor, or paces hurriedly about the room, convulsively clutches at anything within his grasp, or throws himself upon his couch or bed and writhes in agony. The pain is variously described by the patients as agonising, “like a bundle of red-hot wires being

driven into the face, and then twisted in all directions,” “like the seizing of all the teeth at once with dental forceps and rocking them to and fro,” like crushing the part in a vice,” or “stabbing it in a thousand places at once with bradawls or sharp needles.” A paroxysm comes on whilst the patient is describing his symptoms. He breaks off in the middle of a sentence or even a word, to undergo his torture; the muscles of his face may visibly twitch, his conjunctivæ become suffused, a tear perhaps trickles over his cheek. Suddenly the attack ceases, and with a sigh of relief he resumes the history of his suffering. A second paroxysm may not occur for half an hour, even though the irritation which produced the first is repeated; but more frequently there will be two or three during the next ten minutes. The number of paroxysms during the twenty-four hours varies greatly; they may occur during the day only, but more frequently during both night and day. Sometimes there may not be more than twenty or thirty in the twenty-four hours; at other times there may be two or three or even more every half-hour. They vary at different times of the year and are usually worse in the spring. When severe, they make the patient's life almost unbearable; preventing sleep and rendering the taking of food, which invariably brings them on, a dreaded evil.

The treatment may be divided into Medical and Surgical. Of the former little need be said. Nearly every drug in the Pharmacopœia has, at one time or another, been tried with but little success. Opium in large doses, as given by Trousseau, undoubtedly relieves the pain for the time; but little permanent benefit can be expected from it, and the remedy, if remedy it can be called, would appear almost worse than the disease. Aconitia, given internally, has been strongly advised by Gubler as a specific. I tried it in two cases but was disappointed. In one patient, the pulse under its use became intermittent every third beat, and it had to be relinquished after a few doses. In neither was any benefit apparent. Among the surgical measures may be mentioned neurotomy or division of the nerve, neurectomy or cutting a piece out of the nerve, nerve-stretching, removal of one of the ganglia connected with the fifth, application of the actual cautery, the introduction of hot needles into the supra-orbital, infra-orbital, or mental canal. Of

the last mentioned method of treatment I have had no practical experience, and the accounts I have heard of it are not encouraging. The actual cautery was employed in one of the cases before it came under my care, and seemed to give some relief for a few hours after each application, but no more. That merely temporary benefit is obtained by division of the nerve is well known; and even after a piece has been cut out the pain has soon returned. In three of my patients one or other of these operations on several occasions had been previously performed, but with the most evanescent relief, the pain returning as severe as before in a few days. Nerve-stretching on the other hand has been attended with the most happy results. In the first patient with this disease who came under my care I stretched the infra-orbital nerve; the neuralgia was of ten years' duration, and for two years of this time the patient had been actually bedridden, as the pain was beyond endurance when she attempted to get up. All medical remedies had been tried and failed. The operation was performed February, 1879. She was completely relieved, and when last heard of three years afterwards by my friend Mr. Anderson, who sent her to me, she expressed herself as having been cured. The second patient, a man thirty-two years old, who had been an out-patient of Dr. Lauder Brunton's, had had the neuralgia for nine years. He had formerly been in good circumstances, but in consequence of his pain had been rendered unfit for any mental exertion and had gradually lost his business. The neuralgia was confined to the regions supplied by the auriculo-temporal and inferior dental nerves. He had consulted many of the most eminent physicians in London and Paris, and various homœopaths, medical rubbers, and electricians, and had had the inferior dental and mental nerves divided by Messrs. Tomes and Durham. In April, 1883, I stretched the auriculo-temporal nerve, and a week later the inferior dental from the mouth. The relief from pain was complete; he has had none since, and is now again making headway in his business. The third patient, sixty years old, and suffering for eight years. The pain was confined principally to the inferior dental nerve. I stretched this in May, 1883. Since then he has had no pain except some slight twinges in the infra-orbital nerve (none in the in-

ferior dental) for a few days in March, 1884, ten months subsequent to the operation, after having got wet through and taken a violent cold whilst following his occupation as a gardener. The fourth patient, a man fifty-six years old, had been in St. Bartholomew's Hospital for some time under the care of Dr. Church, and more lately as an out-patient under Dr. Lauder Brunton, to whom I was indebted for the case. He had suffered for five years. In November, 1883, I stretched the inferior dental and infra-orbital nerves, and he has remained well since. The fifth, a man seventy-three years old, suffering for ten years with pain chiefly in the inferior dental. He had had the mental branch cut and stretched with little or no benefit at the National Hospital for Epilepsy. In March, 1884, I stretched the inferior dental from within the mouth; notwithstanding his age, had no bad symptoms, and at present has had no return of his neuralgia.

In the sixth case a man, fifty-nine years old had suffered for upward of fourteen years. He had been under the care of several physicians, and had the supra-orbital and infra-orbital nerves stretched on various occasions. Looking to the success of the above cases I attempted to stretch these nerves again, but found, on cutting down upon them, that the tissues were so matted together, as the result of the previous operation, that it was impossible to isolate them. An aneurysm needle was passed under the cicatricial tissue in the situation of the nerves, and an endeavor made to stretch it, but it did not yield to any appreciable extent. The pain was as severe after the operation as ever. On more closely questioning him it was found that although he said the pain began in the cheek and darted upwards over the head, it really began in the gums in the region of the molar teeth, which had been previously extracted, i.e. in the posterior dental nerves, and shot upwards towards the back of the orbit. In January, 1883, I removed Meckel's ganglion and the whole of the maxillary nerve, after having stretched its proximal end, from the foramen rotundum to the spot where it emerges on the cheek. The patient had no bad symptoms; he slept well the night after the operation, better than he had done for months; he was up and about the ward in a few days, and has had no pain since.

The result of the above cases, I think, speak for themselves, and require no further

comment. I have given the briefest outline of them, for as previously said, I intend publishing them in full when a longer time has elapsed. In the meantime, when last heard of, the patient had been relieved for periods of three years, fourteen months, thirteen months, six months, three months, and five months, and even should the neuralgia again return, these many months of respite should alone compensate for the few days' confinement necessitated by the operation.

A few words on the methods of stretching the inferior dental and auricul-temporal nerve. The operation for stretching the supra- and infra-orbital are too well known to call for any remarks. The inferior dental has been exposed in various ways: (1) 1. by division of the cheek, through its entire thickness, at a spot corresponding with the anterior edge of the ramus of the jaw, without dividing the mucous membrane; 2. by the division of the cheek at a spot corresponding with the sigmoid notch; 3. by division of the soft parts over the posterior border of the ramus of the jaws in a direction from behind and below, inwards and upwards; 4. by removal of a portion of the jaw; 5. by trephining the ramus after division of the soft parts just above the commencement of the inferior dental canal; 6. from within the mouth. The last method of exposure was the one used for stretching the nerve in the above cases, and although I worked it out in the dissecting room—not knowing that it had already been employed—I found, on looking up the subject, that it would appear to have been first resorted to by Paravicini. Its superiority over the other methods cannot, I venture to think, be questioned. No scar is left externally, and if the anatomy of the parts be borne in mind, the operation should not be attended with much, if any, difficulty. The mouth having been opened by a gag, an incision through the mucous membrane only is made from the last molar tooth in the upper jaw to the last molar tooth in the lower. The finger is now introduced into the wound and insinuating between the ascending ramus of the jaw and the internal pterygoid muscle. The small spur-like projection of bone at the entrance of the in-

ferior dental canal is next felt for, and serves as a guide to the nerve. Aneurysm needle with a very short curve is now passed and hooked around the nerve, which can then be drawn visibly into the entrance of the wound. There are no important structures with the exceptions of the inferior dental artery and gustatory nerve in the near neighbourhood. The latter is best avoided by remembering that whilst the inferior dental nerve passes into the bone, the gustatory continues its course between the bone and the muscle, and is anterior and a little internal in its relative position to the inferior dental. Should the artery be wounded it will probably be torn rather than cut, and therefore not likely to bleed; were it to do so it is doubtful whether it could be tied, as the wound is deep and will barely admit the finger. There was no hemorrhage in any of above-related cases, but had there been I should have endeavored to staunch it by plugging.

The internal lateral ligament which is inserted into the spur-like process of bone, follows somewhat the same course as the nerve, and may be readily mistaken for it. To avoid it the point of the aneurysm needle should be made to hitch in the entrance of the canal, and thence swept upwards, backwards, and outwards around the nerve; keeping the point close to the bone. As the parts can hardly be seen the sense of touch must be trusted to as our guide. The wound, if the operation is neatly done, is small, and heals kindly and in a few days.

I am not aware that the auriculo-temporal nerve has been hitherto stretched; but I have found a case recorded by Dr. McGraw, (1) in which the nerve was divided.

The best guide to the nerve is the temporal artery. An incision about an inch long should be made parallel and immediately posterior to the artery, beginning just above the zygoma. Having carefully exposed the artery the nerve will be discovered just below and posterior to it. The nerve being of small size the dissection must be done neatly, or it will not be found.

Meckel's ganglion I removed by the operation which is known as Carnochan's. A description of this operation will be found in the *Proceedings of the Royal Medico-Chirurgical Society* (vol. i. No. 5, New Series) by

1 Wiener medizinische Wochenschrift, March 31, 1874, and London Medical Record, 1874, p. 275.

1 Detroit Medical Journal, November, 1877.

Mr. Chavasse, and in the discussion that followed his paper an account of some modifications which I suggested might be desirable to make in its performance.

LIGATION OF THE COMMON FEMORAL ARTERY.—In a paper contributed to the *Medical News* (July 5, 1884), Dr. L. McTiffany, after a study of recorded cases, arrived at the following conclusions:

1. Ligation of common femoral in continuity for distal wound is attended with great mortality, and should not be substituted for the application of ligatures to an artery above and below the point wounded.

2. Ligation of common femoral for elephantiasis or aneurism is proper.

3. The crural sheath should be freely opened and the vessel carefully examined for the origin of the profunda and epigastric, the ligature not to be tied within a half or three quarters of an inch of either.

4. Half or three quarters of an inch below Poupart's ligament will probably be the most favorable locality for the ligature.

5. The presence of a small branch near the seat of ligature does not contraindicate the operation; such branch should be also tied.—*Maryland Medical Journal*.

PROFESSIONAL LIPOMA OF PROSTITUTES.

—In the *Russkaia Meditsina*, No. 13, 1884, Dr. Preis, of the Charkov Hospital for Venereal Women describes what he calls "lipoma diffusio-circumscriptum professionale," to the existence of which in prostitutes his attention was first called by Dr. Porai-Koshitz of Charkov. The tumor was present in 145 out of 217 prostitutes living in Charkov brothels, and is invariably situated in the region of the sixth and seventh cervical vertebræ, its growth always starting from the spot exactly over the spinous process of the vertebra prominens. Its size varies from that of a nut to that of a large apple, the diameter of its base varying between two to twelve centimetres. Its shape is hemispherical or semi-oval, with a flattening in the middle. The surface is smooth, the skin tense and adherent, sometimes pigmented but otherwise normal. On palpation the tumor is somewhat firm, elastic, moveable, painless. Its development begins soon after the woman has entered the profession of a prostitute, and proceeds pretty rapidly. Dr. Preis thinks that this tumor is a lipoma resulting from hypertrophy of the

fatty tissue normally present in the situation mentioned above, and that its development is caused by local mechanical irritation. The latter is given in the form of pressure to which the sanious process of the seventh cervical vertebra is especially subjected during coition, when the woman lies on her back with her head flexed, so that the upper part of the back and lower posterior part of the neck form an angle, the apex of which is the seventh cervical spinous process. In all movements of the pelvis and limbs during the sexual act, the body's weight rests upon this region. Hence tall and well nourished prostitutes are more liable to the development of professional lipoma than short and meagre women. The author and Drs. Porai-Koshitz and Bellin were unable to detect this tumor in non-prostitutes. Syphilis seems to have had no connection with the development of the tumor, since of 145 prostitutes possessing the lipoma, 75 never had any venereal disease.—*London Med. Record*.

THE TREATMENT OF SCALP WOUNDS.—We hail with pleasure the suggestion made by a correspondent of the *Lancet*, which, while not very new, is yet worthy of repetition:

The scalp is remarkable for the looseness with which it is attached to the subjacent bone, and in simple cuts through the scalp blood and serum can readily force a way between the scalp and the bone, and the accumulation induce suppuration. Still more frequently the scalp is torn away from the skull in a longer or shorter flap, and then, if the edges of the wound are united, the serum effused from the under surface of the detached flap is confined beneath it, and suppuration occurs. If this fact be neglected, suturing scalp wounds is a dangerous step; but if it be recognized and acted upon, the sutures are altogether devoid of danger. The main thing in the treatment of any flap scalp wound, however slight the flap may be, is to secure primary adhesion of the flap to the subjacent pericranium and completely prevent accumulation of serum beneath it. This must be secured by properly adjusted pressure; and, in view of this primary indication, but secondary importance should be attached to the rapid healing of the edges of the wound. If a good bunch of hair be taken up on each side of the wound and twisted, and then used as a suture, it

is obvious that the whole surface of the scalp from which the hair springs is held compressed against the subjacent skull, and hence this form of suture skilfully employed really fulfils the indications of treatment very well. It is an error to suppose that the tissue of the scalp is more intolerant of the presence of a suture than the skin of any other part of the body.

COLLODION FOR RED OR BROKEN NOSES. To swollen parts which cannot well be bandaged, collodion is especially applicable for the compression attending its contraction. I was consulted in the case of a boy disfigured by a red and swollen nose, which became very pale and visibly contracted just after I painted it with successive layers of collodion. I repeated the application three times in a fortnight, producing shrinkage of the organ to its natural size and color.

When the nasal bones are fractured a very effective mold for keeping them immovable, after adjusting them with the fingers, may be thus made: Place over the nose a thin layer of absorbent cotton soaked in collodion, taking care that the application extends sufficiently on each side to give a buttress-like support. The patient compares the feeling to the application of a firm bandage on the nose, and the bones consolidate effectively under the shield, which may be renewed as it cracks and peels off.—Mr. Samuel Gamgee, in the *California Medical Journal*.

SURGICAL USES OF IODOFORM.—Dr. Hofmaki at the conclusion of a paper on the surgical uses of iodoform, draws the following conclusions:

1. Iodoform is an excellent disinfectant, and, as a rule, is a painless application to wounds.

5. On account of its very slight solubility it is of little value in complicated wounds of cavities.

3. It does not prevent the occasional outbreak of erysipelas.

4. It is not a specific against scrofulous or tuberculous processes, and develops its healing properties in ulcerations.

5. By keeping wounds fresh and clean it furthers granulation, though it has but little influence on the final cicatrization of the wound.

6. Very thin layers of powdered iodoform do not hinder union by first intention,

7. Pharyngeal and laryngeal diphtheria of children is not benefitted more by iodoform than by other antiseptics.

8. In wounds and ulcers of the mouth, rectum, vagina, as well as in easily accessible wounds in the cavities of bones, iodoform in the shape of a thirty to fifty per cent gauze is an excellent dressing.

9. Parenchymatous injections of iodoform generally cause a great deal of pain, and it cannot be said that they give very good results in fungus diseases of joints and glandular swellings.

10. Iodoform ointments and plasters are often of good service in goitres and chronic swelling of glands, joints, and tendons.

11. Iodoform in large quantities is undoubtedly dangerous, and is more productive of good results and less hurtful in small quantities.

12. Childhood is not a contra-indication to its use.

13. The preliminary cleansing of fresh wounds with weak carbolized water before using the iodoform dressing is of no advantage.

14. The healing of scrofulous and tuberculous sores by iodoform does not prevent their return.

15. Iodoform is an excellent means for the thorough removal of disagreeable odors of neoplasms which do not admit of operation.

16. The occasional syringing of suppurating cavities with small quantities of iodoform emulsion will often have a favorable action on the quantity and quality of pus.

17. The introduction of iodoform bougies into the urethra and bladder will often alleviate pain, as also in vesical tenesmus and suppurative conditions of the bladder, and will exert a favorable influence on the conditions of the urine where rapid decomposition takes place.

18. The application of iodoform bougies to long fistulæ of the soft parts is more hurtful than useful, as the fistulæ are stopped up, and the products of decomposition are not discharged. Equally unwise is the filling up of the mouth of the fistula with iodoform.—*Med. Digest*.

STRETCHING THE SPINAL CORD.—From a foreign exchange we learn that Professor Hegar has recently read a paper at Freiberg in which he advocates stretching the spinal cord. Our readers will be glad to hear that the operation does not consist in

opening the spinal canal and directly stretching the spinal medulla. But Dr. Hegar has found that when the spine is very much bent the cord is actually lengthened. His mode of procedure is to place the patient on his back, and then, with the knees kept carefully straight, the lower limbs are bent up towards the chin as far as possible. In this way the great sciatic nerves are put on the stretch, and this, as well as the over bending of the spine, stretches the lower end of the cord. The cases for which Dr. Hegar recommends this treatment are those of women who suffer from pelvic pain, and of nervous phenomena referable to the branches springing from the lumbar enlargement of the cord. Already the treatment has been employed in a few instances, and, it is stated, with success.—*Med. and Surg. Journal.*

A NEW TREATMENT OF EPITHELIAL CANCER.—Experiments now in progress, under the supervision of Dr. J. E. Garretson, at the Oral Hospital in this city, show a wonderful curative value in the treatment of epithelial cancer with the use of epiderm secured from the horse by means of a currycomb, the treatment being nothing more complex than keeping a sore continuously covered with the ash-colored powder thus obtained. The horses are to be washed over night and curried with a new currycomb in the morning. After picking out the hairs the powder is ready for use. Where horse epiderm is not to be obtained, the scales may be scraped, by means of a knife-blade, from the human arm or leg.—*Med. and Surg. Reporter.*

PHENIC ACID AS AN INJECTION TO ABORT BUBOES.—Taylor reports twenty cases in which he obtained a sure and remarkable result. In the last seven years he has treated thus nearly fifty cases of various forms of lymphyangitis both specific and non-specific. Where the operation was before the formation of pus, progress was immediately arrested and pain soothed in a few minutes; this method consists in injecting 10—14 gtt. of phenic acid directly into the gland.—*L'Union Medicale du Canada.*

SURGICAL TREATMENT OF GALL-STONES. Mr. Lawson Tait has recently carried out his proposal to crush gall-stones by grasping the duct with the forceps. He crushed the stone with great ease by two strokes of

the forceps. It was about the size of a cherry, and, after it was broken, the fragments dispersed, and they have given no trouble at all. Since the operation, only a very small quantity of mucous fluid, faintly tinged with bile, has come through the fistula, and the patient's motions are now quite normal in color. He intends to close the fistula in a few days.—*British Medical Journal.*

THE ACTION OF CHLOROFORM ON THE MEDULLA.—M. Laborde (*Progrès Médical*) has recently examined the action of chloroform when subcutaneously injected. He concludes that it causes death by producing congestion of the medulla oblongata especially at the roots of the vagi. This condition leads to albuminuria, which is characteristic of chloroform narcosis, as shown by himself and M. Bouchard, and to paralysis of the vagi with consequent emphysema and engorgement of the lungs as seen after section of those nerves, as well as in death from chloroform-inhalation.—*The Practitioner.*

CONGENITAL LIPOMA.—Prof. Jacobi, of New York, contributes to the *Archives of Pediatrics*, vol. 1, No. 2, notes of four cases of this condition, and a summary of the literature of the subject. The first case was that of a girl, aged three years, in whom a swelling was noticed in the lumbar region at birth. It grew slowly up to six months before admission, and then increased very rapidly until it measured 10 inches by 4. The tumor was removed with antiseptic precautions, but the child died a few months afterwards. In addition to the large lipoma, there were two smaller ones, one in the gluteal region, and one near the scapula. The second case occurred in a boy three years of age. The swelling was observed for two years, and was seated in the left groin. It measured about $3\frac{1}{2}$ by $2\frac{1}{2}$ inches. Operation was objected to. The third case occurred in a man fifty-five years of age, but was believed to date from birth. Its position was over the ninth and tenth dorsal vertebræ. The fourth case is the most interesting. It occurred in a female child, who weighed $13\frac{1}{2}$ pounds at birth. On the right thigh, a large soft lobulated tumor nearly surrounded the limb. The left foot is very large, its third and fourth toes are webbed and thrice their natural size. The left

lumbo-dorsal region is swelled, soft, and adipose. The whole right side of the body up to the axilla is occupied by a diffuse, somewhat nodular mass, the surface of which shows a few hemorrhagic spots, but no dilated vessels, except at one spot about 14 centimètres square, where the color is brown and fades on pressure.' Later, the left side of the head grew more than the right. The child died when a few months old, and the necropsy confirmed the diagnosis. The fifth case was one of lipoma of the lumbar region, complicated with spina bifida.—*London Med. Record.*

ANTISEPTIC INCISION IN HYDROCELE.—M. Juillard (*Revue de Chirurgie*) tries to demonstrate the superiority of an antiseptic incision, such as proposed by Volkmann, to injection of iodine. According to M. Juillard, the iodine injection, like all other methods of irritating the tunica vaginalis, is a simpler operation, but is followed by violent reaction. The cure is very slow, and there is generally a return of the disease. On the contrary, an incision carefully made, with every antiseptic precaution, never provokes inflammation due to reaction; it is not more painful than an injection and cures as quickly, without relapse. The principal objection to this

mode of treating hydrocele, is that it is long and requires great care and dexterity. M. Juillard's preference for treatment by incision is supported by fifty-four operations; he modified, in some respects, the primary method of Volkmann. He maintains that anæsthesia is not necessary; there is pain only when the skin is incised, and that is done rapidly. Large incisions are preferable to small. An interesting detail in the operation, according to M. Juillard's modifications, is the resection of a certain portion of the tunica vaginalis, in such a way that suture of the edges of this membrane does not prevent the principal fold from being applied immediately against the testicular fold. M. Juillard considers this particular most important, the essential condition to attain obliteration of the tunica vaginalis by union of the serous walls; which prevents the return of the hydrocele. This suture, made with very fine catgut, is covered by the walls of the scrotum, also sutured. Volkmann places a drainage-tube in the tunica vaginalis; M. Juillard in the scrotal wall, and only for a short time. An antiseptic dressing is then applied. M. Juillard lays great stress on the application of sponges to the scrotum; they act as absorbent compresses.—*London Medical Record.*

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Original Articles.

THE "GERM THEORY,"

CONSEQUENT NOT PRECEDENT.

By J. WINCHELL FORBES, Cincinnati.

"Out of nothing only nothing can proceed" "The thing must *be* before it can act."

These are the logical conclusions of centuries of investigation. Before these conclusions were definitely accepted, all theories as to natural processes were based as it were upon the "idle fabric of a dream," of value only as indicating what their promulgators *thought* and not what they had discovered. Dalton's enunciation of the "Atomic theory" laid the first real foundation stone for the Science of Chemistry and thus, for the rational estimation of causes and results for the Physician. Prior to the acceptance of definite elementary existences and during the period when matter was viewed as infinitely divisible, the starting point of all natural substances was placed in a common Infinity. This would necessitate the admission that certain peculiar forces acted upon a given amount of material existences and produced a certain peculiar result which we now term an elementary body. In addition to this, the fact that we have never witnessed the transformation of one of these results into another compels us to admit that these forces *acted but once*, but placed the subject of action in such a condition that no *other* forces could influence it. In the cases of sulphur and phosphorus we find forces modifying elementary forms and habitudes without radical change of that form. Soluble sulphur is as really sulphur and elementary to us as the soluble variety, and the amorphous form of phosphorus produces by combination with other elements the same bodies derivable from the vitreous. As the variation in these substances can only arise from a different arrangement in space of identical entities, it is evident that no matter which we view as normal, that the original force or forces acting upon a constant primordial has been overcome in producing the other.

Again if we consider as the ultimate of materiality, Infinity, we are compelled to admit as our basis, a quantity constantly approaching, but never reaching zero. As aggregation is simply multiplication of the unit, and we can consider as this unit

nothing but the last member of the progression, zero, it is plain that by no process of addition or multiplication can we arrive at real definite existence.

If we state as a fact that matter is derived from Infinity, we are compelled to assume, as elementary forms vary, that such variation is due to peculiar forces and the writer cannot feel that such an assumption is any less repugnant than that of the absolute creation of elementary forms specific *per se*.

In either case we are obliged to admit the existence of an intelligence, either creative or mandatory. All natural processes we know are evolutionary in character; and strange and unfamiliar substances we can almost invariably trace as derivative from known premises. It is true that occasionally a new form is announced, but it is either found in a rarely traversed field, or its previous non-recognition is clearly shown to be due to the fact that its common manifestation is under conditions that render its confusion with other known and familiar elements easy. Cobalt and nickel are very different in physical appearance, yet their separation from the natural ore is difficult owing to the fact that both obey the same chemical influences identically in many cases. The separation is effected by making use of those influences to which they are not equally obedient. The close relationship of nickel and cobalt is plainly shown by their combining weight which is identical (59) and density 8.88, and 8.5.

The theory of peculiar forces acting upon a constant primordial finds some support in chemical science in the fact that elementary forms of allied nature are often associated, thus Zinc, Iron, Cobalt, Nickel, Manganese and Chromium, frequently occur in the same mineral and owing to gradation in characteristics, might be supposed as derivations from each other. All decompose water at a red-heat, all liberate hydrogen from muriatic acid. They are all diatomic, and with a single equivalent of oxygen produce bases that combine with acids to form salts of the same form of crystallization. In these points all are alike, but Zinc forms no sesquioxide, Nickel forms a very indifferent oxide, Cobalt forms feebly a basic sesquioxide, Manganese forms a stronger basic sesquioxide, Chromium forms a very strong sesquioxide, Iron forms the strongest sesquioxide of all.

The chrome green used in painting shades is sesquioxide of chromium and fades on

long exposure to the weather, while the sesquioxide of iron appears to be unchangeable, as "rust."

If these elementary forms were mutually derivative among themselves, we would naturally expect to find *intermediate* forms. Viewing iron as derivative from zinc we may consider the remainder of the group as constituting a series but we are at once met with an anomaly in the fact that the combining weights of iron is greater than that of manganese and chromium, which precedes it in the series. A consideration of combining weights for the series as given shows that the difference between these elementary forms is by *steps*, with the exception of nickel and cobalt which have the same number, 65, 59, 59, 55, 52.5 and 56. An inspection of these figures shows a total absence of the *regularity of difference* peculiar to evolutionary processes. Again if we consider the action of a "peculiar" force as continuous, we should have bodies occupying a position between the members of the series given, for instance a metal between zinc and nickel, or rather an infinite series of metals of an homogeneous passage from zinc, to nickel characteristics. This we find is not the case. The elements while related in some points, have clearly marked individualities and by no combination of the natural forms have we ever succeeded in either duplication or creation of a new one.

The acceptance of primordials as definite entities called into existence by *fiat* of an omnipotent Creator, and the recognition of these definite creations as peculiar *per se* and as marking the boundary of the finite, is surely less repugnant to the reason than the assumption of omnipotent forces derived from Infinity that are *expended* in action upon indefinite existences; which is the farrago that a constant primordial and the unlimited divisibility of matter demands us to believe.

The day has long since gone by when the term "occult influence" will satisfy the seeker after truth, and whether it be a definitely formed "germ" or simply a molecule in a certain form of motion we must ascribe all definite results to equally definite causes. It is true that there are some cases in which we cannot estimate the part that a given body takes, for instance the decomposition of hydric-peroxide by metals that have no affinity for oxygen. Palladium absorbs many times its volume of hydro-

gen when slightly heated. Gold, silver or platina *may* in turn absorb infinitesimal quantity of oxygen from the hydric-peroxide just enough to "disturb the balance" of this unstable substance. We may be assured that there is no such thing as a *true* "catalytic action." Any action whatever ensuing from the contact or approximation of bodies can only be due to the destruction of potential equilibrium in one or all of such bodies, and this cannot occur without movement of force. Catalysis implies movement of potential force, which is absurd, as force in that condition is simply the result of equal opposing kinetic forces. Any motion manifest must be due either to increase in one or what is the same thing diminution of the other.

The refusal of certain super-saturated solutions to crystallize, is due to conditions that place in antagonism, forces that act in the same direction normally. These forces being equal, equilibrium results, hence no motion. A slight tap on the side of the containing vessel, or the introduction of a foreign body, disturbs this equilibrium, and activity is at once manifest in the motions of crystal formation. Turn where we will, outside of the domain of pure intellectuality, we find that tangible results are invariably sequences of the motion of definite material causes.

We are compelled to accept materialism, or in a cowardly manner relegate subjects physically obedient to fixed laws, to the method of the unknowable, a real burying of our talent in a napkin. The recognition of materialistic action in the created does not in any wise imply materialistic nature of the creator.

If we say that a certain locality is provocative of malaria we simply state that in that locality certain definite existences are present which by modifying normal vital processes render them abnormal and the change in these processes is manifest in the symptomatic disease. If the choleraic disease be due to an intangible influence why does it require *tangible* lines for transmission from one country to another? Of what avail will be any form of quarantine that is based on the tangible means! Can we exorcise a spirit with bad smells? Can one sprinkle a thing that has no existence with carbolic acid? If contagion is only an "occult influence," why does it require *time* for passage from one locality to another? All this is peculiar to actual existence and

whether we consider the definite existences as degenerations or progressions from normality the fact remains, that they must *be*, before they can act.

We may call them "germs" "spores" or anything we please. We may assert that they are results or an organized evolution. We may claim that through degradation or exaltation of the vital processes in a certain individual such "germs" may be evolved as will be capable of reproduction among themselves. It would be no more wonderful than the growth of the fetus in the womb, and certainly is not autogenesis. We may assume that by interaction of minerals a gaseous body may infect the atmosphere and give rise to diseased action, as obstinate hic-cough from sulphurous acid vapor, but no matter what view we may take of their specific nature we must understand that all causes that exert physical influences (except through the imagination) must have a physical existence, with all the attributes of limited occupancy of space, normality of form and action, and obedience to definite laws. The sporadic genesis of a true germ can only take place as a matter of course when that germ is a complete rounded existence in itself. That is it must have a period of embryohood—one of growth and a final one of maturation when it is ready to leave the scene of its inception spontaneously for new fields, but the process of reproduction may begin before complete maturation and an unlimited number of germs be evolved from a single starting point, as the fecundity of the lower orders is startling in the extreme. That these germs should be present in the atmosphere is no more surprising than the occurrence of ordinary dust, but their tenacity of life is remarkably so, and seems to indicate the reason of their control of ordinary vital motions, *persistent influence*. In the case of malarial fever the beneficial effect of quinine reinforcing by vital motion may be thus explained.

The very characteristics of ordinary fever and ague, "*periodicity*" is strong evidence of action of a definite and specific cause, which like diastase in the transformation of starch into sugar, has limited power. The divisions of the disease into cycles, not caused by extrinsic influences plainly indicate the variation in value of the opposing forces, the attacking factor and the resistance of vital action, of which the febrile condition is an evidence of exaltation above normal

value. As diastase is not capable of a motion of increase, but simply of expenditure, a given quantity will perform limited work and when that is accomplished, anything further is dependant upon power from points wholly extrinsic. On the other hand if the malarial germ be like the yeast plant, furnished with a means of augmentation in existence value, one can readily understand that alternate reproduction and expenditure will be followed by augmentation and diminution of the effects of the specific cause and in a ratio correspondent with the amount of variation in value of the cause, and with the time interval separating the extremes of variation.

The mere fact of the discovery of an unfamiliar micro-organism is not in itself an absolute proof that it has a specific *action*. But when such are found to occur *only* under given circumstances,—*always* attendant upon such circumstances, and when these circumstances replace others when such organism is introduced, we may justly conclude that a certain specific relation exists between the organism and the given circumstances. In fact if that organism is capable of performing work, we should be able to do that work *with* it.

The fact that work *has* been done in this way and abnormal conditions produced of a nature corresponding to the micro-organism used, is the *foundation stone* of the germ theory and not a portion of the superstructure. There can be no contagion without germs. The very term itself implies *contact*, and no contact can occur between the material and immaterial. While no one of course will assert that disease cannot occur except as the logical sequence of germ action, it is equally certain that a disease cannot be communicated from one individual to another except by the passage of a tangible something and for that "*something*" "*germ*" is perhaps a concise term as we can use.

The germ theory is not the mere fanciful speculation of the theorist, a mere hypothesis by invention, but has been led to by the progress of scientific investigation and the gradual recognition of the truth that the only "*occult cause*" in nature is the fundamental principle that underlies all processes, the attraction of gravitation. It is simply the statement that the results that are familiar, and definite to us, flow from causes that are equally definite, although not familiar and when those results are of

a specific and constant character, the fundamental cause must be also specific and constant. It is a renunciation of the assumption of definite products from indefinite premises, and is perfectly in consonance with the recognition of primordials as marking the line of separation between the Finite and the Infinite, beyond which our investigations cannot proceed.

A CASE OF BELLADONNA POISONING.

By J. T. WALLINGFORD, M.D., Cincinnati.

About four o'clock in the afternoon, I was urgently requested to see Albert A., five years old. The messenger stated that the child was raging with pain, and every moment they expected spasms to supervene.

I responded at once, and found the mother pacing the floor with child in arms.

On inquiry I was told that Albert had been "cross and peevish" for two or three weeks, but had excited no attention until that afternoon, when he became rather suddenly worse and could not be quieted. I readily noticed that the child was suffering from the way he rolled and twisted about, also that he had a hoarse cry. The cry was not continuous and quiet, but was fierce and wild at times, and the child apparently endeavored to escape some punishment. The pulse was 140, very small and compressible; temperature in the axilla 102° F. The skin was very hot and dry, and covered over the face and neck with a rose-colored erythema almost identical with that of scarlatina, wanting, however, in the punctated character of that eruption. The respiration was rapid, the lips, tongue and fauces were dry and quite red, making a striking resemblance to scarlet fever.

The eyes were noticed to be tightly closed, and on account of the great resistance of the child and its excitable condition, the pupils could not be seen, the conjunctiva, however, appeared quite red and inflamed, and the mother elicited the fact that his eyes had been sore for several weeks, and were now being treated by an "eye-doctor" at the dispensary, and that she had just been at the oculist's with the child an hour before sending for me. In answer to a question she stated that the doctor dropped medicine in the eyes at each visit.

This, together with the rather sudden at-

tack, the extreme restlessness and excitability, the hoarse cry, erythema, etc., were sufficient to clear up the mystery of the case, and on learning that the "eye doctor" belonged to the "new school," I at once pronounced it a case of belladonna poisoning.

By the judicious use of opium and nitric ether, and sponging the body with cool water, the child gradually grew better, and in a few days was about as usual.

The danger of belladonna poisoning, though occurring comparatively infrequently, especially when used by the physician in ocular therapeutics, and the resulting symptoms so closely resembling those of some of the acute infectious diseases, making a diagnosis at times quite difficult, if not impossible, are the incentives which prompted a report of this case. It is true that the oculist is continually distilling the eye with a solution of atropine for its diagnostic and therapeutic properties, without noticing many unpleasant results, yet I have often wondered that poisoning does not more frequently occur from this agent after being used with such impunity, and in such a confident and careless manner characteristic of some dispensary physicians. We know atropia to be one of the most diffusible substances in the materia medica, and we have reason to believe that when placed in the eye its absorption is accelerated or retarded according to the pathological condition of the conjunctiva.

Now, in view of the truth of the above assertion, what rule guides the ophthalmologist in the local application of atropia and other poisonous agents upon the conjunctiva in various pathological conditions? May we not believe, for instance, that two drops of a given solution will produce different results in different forms of disease? Is not the absorption capacity changed or altered by the various inflammations or ulcerations of the eye? Could not an ulcer retain enough atropia after slow absorption to produce poisonous results?

I make no pretensions whatever in diseases of the eye, nor do I presume to teach the oculist a lesson, but submit this for their own consideration, with the belief, however, that by careful observation and experimentation valuable rules might be formulated for the local use of poisonous remedies in the eye for certain diseased conditions.

211 Baymiller St.

Correspondence.

CREDE'S METHOD FOR DELIVERY OF THE PLACENTA.

Editors Lancet and Clinic :

The vigorous controversy over "Créde's method", which has recently involved so many obstetricians, has led Créde to restate in detail the manipulation he advises. As many American practitioners habitually adopt what they believe is his practice, I think it will be of interest to know exactly what that method is; I therefore have translated his own description, giving the italics as found in the original, in the *Archiv für Gynakologie*, xxiii., 2, 313 :

* * * "The natural detachment of the placenta occurs within a few minutes after the birth of the child, and is recognized by a discharge of blood, and by marked diminution of the size of the uterus, which may now be felt as a firm ball, the size of a child's head, between the umbilicus and pubes. As soon as any after pains have occurred the midwife grasps the entire uterus through the abdominal walls with both hands and presses it towards the concavity of the sacrum, she repeats this *several times* if necessary, *but only during a pain*, until the placenta is found at the vulva or is entirely expelled. If, from imperfect contraction of the uterus, or from tenderness of the abdominal walls, sufficient pressure to expel the placenta cannot be made, the attendant, guided by the umbilical cord, feels carefully in the vagina for the placenta; if a portion is felt, then, with one hand, *gentle* traction is made on the umbilical cord, while with the other pressure is made over the uterus. If the point of insertion of the cord in the placenta cannot be reached, or if on *gentle* traction of the cord resistance is felt, no further effort to deliver the placenta in this way may be made until after *several uterine contractions* have occurred, which may be increased by *gentle* rubbing and pressure. If the placenta is found low in the vagina, and readily reached by the finger, then the attendant shall pass the index and middle fingers as far upon the placenta as possible and press it gently downwards and backwards, while with the left hand the cord is made tense. When the placenta appears at the vulva the attendant shall grasp it with the fingers of one hand and draw it gently upwards and slowly turn it upon

itself several times in order that the membranes may form a cord and not be torn away. When delivered the entire after-birth and any coagula are removed under the flexed leg of the woman and placed in an empty basin.

"*All strong traction on the umbilical cord, or attempts to extract the placenta when high up by introducing a part or the whole hand, or to aid the efforts at extraction by straining, coughing, blowing in the hands, etc., are very dangerous and therefore are inadmissible and forbidden.*"

Respectfully, W. H. TAYLOR, M.D.
329 West Seventh St., Cincinnati.

WOUNDS OF THE SCALP—TREATMENT.

Editor Lancet and Clinic :

In your issue of the 9th inst. is a short article on the treatment of scalp wounds. The remarks upon effusion beneath the scalp are very practical, as well as the treatment by closure and pressure, but the method by tying the hair is not always available, especially with men, in whom these wounds usually occur, the close shingled hair preventing. I have pursued the following plan for years with invariably good results: Cleanse the wound with water as hot as can be borne; this stops the bleeding, clears out clots and leaves the surfaces in a glazed condition, which tends to prevent serous effusion and so favors rapid adhesion. In the absence of hot water I use a strongly carbolized cold water to cleanse the parts with. All the sutures needed are inserted but none are tied till all bleeding has been stopped. After seeing that there are no clots left, they are carefully closed and a compress applied and secured as follows: A roller with a piece of elastic webbing or a pure rubber band attached is brought to bear upon the compress and the rubber having been strained so as to exert the desired pressure is secured, after which the roller is passed in different directions about the head, so as to secure the turn containing the elastic from displacement. In case of considerable swelling taking place the elasticity of such a dressing will prevent undue and painful pressure and save trouble of removal of the dressing before its purposes are accomplished.

Respectfully, H. H. CLARK, M.D.
Danville, Ill., Aug. 12, 1884.

Translations.

INTERNATIONAL SANITARY POLICE REGULATIONS, AND EXOTIC PESTILENTIAL MALADIES.

By Dr. A. FAUVEL.

[Translated from the "*Revue D' Hygiene*" by
Thomas C. Minor, M.D.,]

[CONTINUED.]

In order to prevent the invasion of cholera, the International Medical Congress, held at Constantinople in 1866 laid down a system of defense based on a knowledge of all routes followed by the disease in entering Europe up to the present day.

As regarded the overland route, Russia was to organize a quarantine service on the coast of the Caspian Sea, and Turkey was to establish a cordon of sanitary outposts on the frontiers of Persia, from Bayazid northward as far as the Persian Gulf. This immense barrier is only very incompletely organized at the present time, and consequently can not be of much service.

The same can not be said of the maritime stations organized to prevent the importation of cholera from India or Arabia by sea. Here the system of defense extolled by the conference was applied, not in its entirety, but in a sufficient manner to guarantee its efficacy. This system included preventive measures taken in India on the departure of the pilgrims; hygienic measures in Arabia, at pilgrim's shrines; an inspection of pilgrims on their embarkation and return by way of Egypt; a place of quarantine in case of epidemic, and, finally, active measures to preserve Egypt from an invasion of the malady.

In this system Egypt was the principal barrier to oppose the introduction of cholera on the Mediterranean, and the chief efforts are made to preserve this country from all choleraic invasion, for the reason that if Egypt is once infected an epidemic in Europe will follow.

We can easily understand that such a system could not be arranged without meeting serious obstacles from various causes. The first opposition came from the ship agents who transported pilgrims. Notwithstanding this, however, the means of prevention used in the Red Sea have several times preserved Egypt, and consequently Europe, from an invasion of cholera, twice from infected pilgrims, in 1872 and 1878;

and several times from infected vessels arriving from India, where cholera was prevailing.

These facts, perfectly well known by persons who are sanitary students, are generally ignored by the mass of the profession, and yet, are matters of great importance.

Definitely, the efficacy of the system of defense applied to the Red Sea has been complete since 1866. Cholera has not been able to overcome the obstacle opposed to it on that side. Opponents of this system may say that the door for cholera being open on the Russian side, it is illogical to close the entrance on the Red Sea side, but practical sanitarians maintain that by closing this dangerous route we diminish the chances of an invasion.

Yellow fever, as terrible as cholera in its effects, does not menace Europe to its whole extent like cholera. Its invasions so far have been limited to those western portions of Europe having direct trade with American ports where this disease is prevalent.

Portugal and Spain had serious outbreaks of yellow fever a few years since; it was afterward carried to France and the south of England. However, in the latter country, as the yellow fever is influenced to a large extent by conditions of soil, climate and sanitary surroundings, the disease has never been propagated or spread.

In France the points most exposed to contagion, owing to their maritime relations, are Marseilles, Bordeaux, Saint Nazaire and Havre. We all remember how in 1866 the yellow fever was rapidly propagated at Saint Nazaire. Since that time, thanks to the precautions taken against suspected and contaminated countries, the disease has not invaded France, although our commercial relations with infected countries have been largely augmented. The late yellow fever outbreaks in Senegal have again placed our ports in danger, and much vigilance will be required to prevent another epidemic.

Up to the present time the various manifestations of yellow fever in Europe have been limited to the ports attacked. It has never spread into the interior provinces like cholera, nevertheless its ravages have been terrible at all ports attacked, with the single exception of Saint Nazaire.

Yellow fever, viewed as an invader of Europe, is of little importance as compared

with cholera, yet the southern and western coasts of Europe are sometimes threatened, and the danger to these regions is growing more menacing from day to day, owing to the prodigious extension of the malady in America, and our increasing mercantile relations with countries where the disease is endemic. We have seen how late epidemics of yellow fever in America go up rivers, traveling great distances from the ocean outlets of such streams, and we know full well that if yellow fever were imported among us at a favorable season at the entrance of the Gironde or Loire, it might act as it does along the Mississippi, Missouri and Ohio, or the affluents of the Plata. It is best not to risk an experience of that kind.

Preventive measures against the importation of yellow fever varies in the countries menaced according as the propagation of the disease is more or less dreaded. Quarantine is very strict in Portugal even more so in Spain, less stringent in France, while few precautions are used in England. In England patients from infected ships are isolated and treated, while no attention is paid to the period of incubation of the disease among the other passengers. The more or less favorable disposition to propagation will explain the different sanitary measures enforced in different countries.

Let us now speak of the bubonic plague, a disease formerly widely distributed throughout Europe. For two hundred years this disease has been confined to its original infective centre in the East, yet on several occasions it has attempted to invade adjoining European countries, and has left on the Mediterranean coasts sad memories that still linger.

In modern times the plague, which was thought to be extinct in the East since 1844, suddenly appeared in 1858 on the Barbary coast at Bengazi in the province of Tripoli, and since then has several times assumed epidemic proportions on the borders of Turkey and Persia. For several years past, and even lately it has prevailed in Mesopotamia, causing a heavy mortality. Six years since it was epidemic at Reht, on the borders of the Caspian Sea. In the last twenty years the plague has not only appeared in Egypt, where it first originated, but at places widely separated by distance, forming a number of infective centres, of which the principal one is in Mesopotamia. Egypt and Europe are again threatened anew by

this most terrible of diseases. However, since 1858 it has not attacked the Mediterranean coast, remaining confined to Mesopotamia and Persia. At the present moment the malady appears quiescent, but perhaps we shall see it reappear with the return of very hot weather accompanied by humidity.

The present is not the moment to investigate the causes giving rise to these new manifestations of the plague, we only desire to show the necessity for the Continent being on its guard against the invasion of the plague from the Mediterranean side. If the disease reappears in Mesopotamia and attacks the Persian Gulf, Egypt will be threatened owing to its maritime relations with Bassorah, and by reason of the favorable conditions which it presents for the reception and propagation of the malady. Egypt once infected means that the entire Mediterranean coast will be compromised on account of commercial relations.

It is necessary then, as in cholera, to energetically defend Egypt against an invasion of the plague. A special regulation has been prepared for Egypt. Turkey by sea-board must see that the infected centres which still exist in Mesopotamia and Persia are not permitted to propagate the plague through Lydia and Asia Minor. There is every reason to believe that Turkey will perform its duty.

This system of extra-European prevention does not exclude, as a last resort, the application of quarantine measures to our ports when infected ships arrive.

We have enumerated the three great exotic pestilential maladies, which Europe, through the intervention of an international sanitary police hopes to prevent, and we see how difficult is the task in case of cholera, owing to the impossibility of placing obstacles enough to deter epidemics of the disease from invading Europe by overland routes. However, experience has proved that even in such a case, the precautions taken against the maritime importation of the malady had a sufficient efficacy to justify their stringent application.

But it is no less true that the real system of defense against cholera consists in opposing new invasions of the disease into Europe by means of the extra-European measures recommended by the Sanitary Council of Constantinople, and practiced along the Red Sea with such great success.

As to yellow fever, which only menaces

western Europe, and the extension of which is less to be feared than cholera, limited measures applied to the threatened coast are most efficacious and certain, while these sanitary measures should always be adopted in proportion to the degree of receptivity of the country to be defended. The means of prevention used in England would be insufficient in Portugal, in Spain, and at several places on the French coasts.

As regards the plague, the principal points menaced and needing protection are the countries bordering on the Mediterranean. There is the maritime route via the Red Sea which presents the greatest danger, and it is absolutely necessary to protect Egypt, which is the real barrier for the protection of Europe. In the meantime we must not forget nor neglect the protection of all the Mediterranean ports.

From this short article it is easy to perceive that our greatest efforts are necessary to prevent the invasion of Europe by exotic pestilential maladies. For this reason police sanitation merits the name *international*, as the object of interest we seek to gain is of common importance to all European peoples. Unfortunately, the international understanding is far from being complete, and selfish mercantile interests are opposed to the realization of that which is sought after. Meantime if, as we hope, an agreement is finally consummated, the task of establishing a systematic sanitary defense against the two great plagues of the East will be concluded, and the labors of the Sanitary Council held at Constantinople will not be in vain.

TO DISINFECT a room, place an ordinary house shovel over the fire until it becomes thoroughly hot (but not red hot); then take it to the centre of the room and pour on the shovel an ounce of No. 4 or No. 5 carbolic acid; lean the shovel so that no fluid can fall to the floor, and the acid will be readily given off in vapor sufficient to fill an ordinary room. This will disinfect the air of the room, and as genuine carbolic (more properly called phenol or phenylic alcohol) is not a mineral corrosive acid, the vapor will in no way injure pictures, metals, or fabrics.—*Ex.*

AH SIN!—A Chinese doctor in Arizona Territory was fined one hundred dollars because his diploma turned out to be a laundry list.—*New England Med. Monthly.*

THE CINCINNATI LANCET AND CLINIC

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Cincinnati, August 16, 1884.

The Week.

THE cholera is gradually, but surely, spreading over Southern Europe. Cases have now appeared in France, Spain, Italy and Switzerland. From all of these foci of contagion it would seem hardly probable that the disease can be kept much longer from America.

In Marseilles and Toulon the death rate is decreasing and the scourge is evidently subsiding.

When the tourists return in the fall it will be singular if the disease is not introduced into this country. The introduction of cholera this fall would probably mean its presence here next summer.

THE CINCINNATI BOARD OF HEALTH—According to the daily press, the new member of the Board of Health, Ed. Nealus, of the Twelfth ward, has a record, to which the Police Court docket furnishes the following, arranged in chronological order.

August, 22, 1878, disorderly conduct; dismissed.

January 8, 1880, disorderly conduct; dismissed.

January 15, 1880, assault and battery; \$3 and costs.

April 4, 1880, assault and battery on Louis Klich; continued from time to time and then dismissed on the failure of Klich to appear and prosecute.

April 6, 1880, disorderly conduct; dismissed.

October 13, 1882, assault and battery on M. J. Schuman; convicted, together with Ed. Ryan and Louis Kerner, and fined \$100 and given thirty days in the Work-house.

This was under Judge Von Martels.

ENCYCLOPEDIA OF MEDICAL WIT, HUMOR, AND CURIOSITIES OF MEDICINE. — The undersigned proposes to publish during the coming year a large volume under the above or a similar title.

In this undertaking he respectfully solicits the kindly aid of the profession. Witticisms and anecdotes of a humorous or curious nature are solicited. There are numberless unpublished experiences that would prove a source of amusement and instruction, and all physicians, druggists, dentists, and others supplying original contributions will receive due credit in the work.

Information regarding suitable literature—home and foreign, ancient and modern—will be gladly received, and highly appreciated. The author is especially anxious to avail himself of every source, and would greatly appreciate all information concerning publications likely to be useful for reference.

All letters, contributions, clippings, books and other matter should be addressed to

JULIUS WISE, M.D.,
806 Olive street, St. Louis, Mo.

AN ELECTRICAL NEUROSIS. — In the *Progrès Médical* (No. 27) is a brief but interesting report of a young woman, 29 years of age, who, with ovarian hyperæsthesia, nervous anorexia, and other hysterical troubles of several years' standing, presents evidences of increased bodily electricity. Brushing her hair causes crepitating sounds, and sparks are visible in the dark. Light substances, such as pieces of paper, ribbons, etc., adhere to her fingers, and her linen clings so closely to her body as to interfere with her movements. These electrical phenomena are exhibited in various ways: they are more decided in

dry and cold weather, and when her mind is excited. Her bodily feelings coincide with the electrical condition; when the tension is high, she feels well and is intelligent and lively; when the atmosphere is damp, she is, on the contrary, in a condition of lassitude. After electrical discharges from any part of the body she also feels painful fatigue. The patient eats poorly, is anæmic, and is subject to œdema of the ankles, most marked in damp weather. Her skin is unusually dry and harsh, and it is believed that it is to this fact that the phenomena are to be attributed, the dry skin interfering with the normal loss of electricity from the body; they are not attributable to increased production, but to decreased discharge, of electricity. Among the lower animals the cat, having a dry skin, presents somewhat similar phenomena. — *Medical Times*.

THE Tariff question is to be thoroughly discussed in the *North American Review*. Free Trade arguments will appear in the September number, and Protection views in the October. The ablest writers on both sides have been engaged.

ON SOME DISPUTED POINTS CONCERNING THE NATURE AND CONTAGION OF CHOLERA.

(Continued) By D. H. Cullmore, M.D.—

The evidence against the contagiousness of cholera, which I will first bring forward, rests mainly on the fact that the contagious nature of the disease is denied by many eminent men of the highest authority and greatest experience—experience gained in a country where the disease is always endemic and often epidemic.

Sir Joseph Fayrer tells us that "he had seen hundreds of cases of sporadic and epidemic cholera, but had seen nothing to lead him to think the disease was contagious. Notwithstanding his long experience he was ignorant of the cause of the disease."

Dr. Lewis is more emphatic still. "For fourteen years he had studied cholera, and had never seen anything to lead him to regard it as contagious. It was the custom in Calcutta to treat cholera in the same wards as other diseases, and no evils resulted. It had not spread to the Andaman Islands, four days sail from Calcutta, for the past twenty-five years, though there is constant communication between the two places."

Dr. Evart tells us that cholera was never

known to prevail among the nurses and sweepers of the Calcutta Hospital more extensively than among the rest of the population.

Some other typical examples of the non-transmissibility of cholera by human agency are as follows. They are taken from Dr. Gordon's careful work, and are strictly reliable:—

At Sunderland in 1839 there was no communication with the supposed importers of the disease, and none of the ships which introduced it had a case on board. During the American epidemic, in 1833, although Lexington and Versailles are only twelve miles apart, and communication between them was constant, there was no cholera in the latter, but in 1834 it was severely ravaged."

Similar instances where the course of the disease could not be traced are numerous, but quite as numerous are the instances in which the course at first untraceable, was afterwards, on more careful examination, discovered. This was particularly the case in America, where every out break was, after much labor, finally traced to its source.

Other evidences against contagion are deduced from the fact that men have occasionally, swallowed cholera stools with impunity, and have slept, like the celebrated Dr. Parkes, in a bed but lately occupied by a cholera patient.

Such is the proof opposed to contagion, which I will now rebut.

With reference to the opinions of the eminent men just quoted, I will point out that India, and particularly Calcutta, as a field of observation is eminently adapted to raise up and foster opinions hostile to the contagion theory. In the Delta of the Ganges, where endemic and epidemic cholera finds its most cherished home, the air is so contaminated, either directly or by a rise in the subsoil water, in the manner shown by Pettenkoffer, that tracing cases to their sources becomes impossible.

The poison being omnipresent, a certain immunity is engendered in those least susceptible, while those labouring under mental depression or fatigue, or fear, are found to suffer most. The difficulty of investigating the cause is further increased, not only in Bengal, but throughout all India, by the enormous population, so vaguely estimated that the census discovered forty millions more than had before been suspected; by numbers of castes caring nothing for each

other, and the unreliable character of the native; by the large number of pilgrims going in all directions, and by the great reluctance of the people to give information, on account of ignorance, or from fear of increased taxation.

Even in this centre of civilization, when the difficulty of tracing a disease to its origin is immense, as shown by a failure in the first instance in connection with epidemic typhoid in North London, it can be easily understood that in India such a consummation is impossible.

Looking on mental depression, fatigue, fear, errors in diet, debauch, etc., all of which lower the vital powers, as the chief predisposing causes, it can easily be understood why the nurses and others in the hospitals of Calcutta do not suffer more than the general population. It must never be forgotten that cholera in its propagation has a strong resemblance to typhoid fever, and that the attendants in well regulated hospitals are not more frequently attacked, particularly under the conditions in Calcutta, affords no evidence against the contagion of the disease, though it may afford much in favor of the excellent sanitary state and careful medical supervision exercised in the hospitals.

We constantly treat typhoid fever in our hospitals in the midst of patients suffering from other affections. If this can be done with impunity in typhoid, why not also in cholera? more particularly if we credit the experience of Sanderson, that the stools of cholera increase in virulence the longer they have been removed from the body. If one disease can be carried, so can the other. As regards Dr. Lewis' assertion at Amsterdam, and I hardly believe he was rightly reported, it is not correct, for cholera was carried into the Andaman Islands and Rangoon in 1864.

It has been asserted by Pettenkoffer that cholera has never been carried from Bengal to the Cape, to Australia, or the Mauritius. "There is," says Pettenkoffer, "no instance of the conveyance of the disease by Indian steamers to Australia, to the Cape, or to the Mauritius, though the majority of the passengers by the last line are coolies." As regards Australia and the Cape this is correct, and it is probably owing as much to the character of the passengers and ships and the duration of the voyage as to the quarantine, which precaution, unless when the disease breaks out on board, is

not needed. As regards Mauritius and the coolies, such is not the case, as the following extracts from Surgeon-General Gordon's notes will show.

"Into the Mauritius in 1854 it was carried by coolies from India in the ship *Sultang*, and again in 1856 by the ships *Ayderree* and *Futtah Monbarah*. These vessels severally arrived at Port Louis on the 5th and 8th of January, having coolies on board. Deaths from cholera had occurred on both during the voyage. The crews of the vessels being permitted to land, cholera broke out and sacrificed thousands of victims."

These cases show clearly enough that, while cholera quickly vanishes from well-regulated ships on the high seas, owing in great measure to the facilities for the instant removal of the dejecta, and removal from an infected area—it nevertheless is conveyed long distances, not only by overcrowded coolie ships but by others as well, or else it could never have reached the American continent and the many remote islands which it has visited from time to time.

In a recent outbreak among the coolies around Darjeeling, the course of the disease was so ably made out, that Surgeon-General Irvine of Bengal was at once converted from the non-contagious views, which with so many of the same school, he had previously held.

Much has been made of the assertion of Dr. Parkes that he slept with impunity in a bed from which a cholera patient had just died. But when seven years old I slept with a brother affected with scarlatina, without catching the disease.

Those in India who incline to the contagion theory are increasing. Besides those mentioned above, Surgeon-Major Fox and Surgeon-General Murray, who has devoted a long life to the study of the disease, are firm believers in its contagion.

I will now state a few positive proofs that cholera is contagious.

In 1834 three gentlemen started from Quebec for Beaupres. On the way they rested at the house of a farmer, were shown into a room, drank some brandy, and then continued their journey. All three took cholera, and two died within two days. The farmer's wife had died in the room in which they had been accommodated, and it had been shut up till then.

At Jaulna, in 1818, Sepoy attendants on cholera patients were attacked in such num-

bers that others were compelled to perform the duty. In 1829 at Astrachan the attendants at first escaped, but later on there died three medical men, some attendants and the majority of the female nurses. In one hospital six attendants were attacked. In 1832 at Edinburgh there was one case of cholera to every five attendants, against one in 1,200 among the general population. In 1846 in the same city one fourth of the attendants in the cholera hospital were attacked, while in the general hospital, a few yards distant, into which no cholera patients were admitted, no attendants were attacked. In 1854 a man and his wife having died of cholera at Oxford, out of thirteen persons who visited them, eleven were attacked. In the Crimea, the deaths in the ambulance corps far exceeded that of any other. In 1861 at Mean Meer, of 1,200 men, 869 were employed as hospital orderlies, out of whom 438 were seized with cholera. In another regiment, out of 203 cases, 137 occurred among hospital orderlies. In 1877 at Vellore, in an epidemic in the 14th Native Infantry, of which I was in charge, four out of five of the sweepers were attacked, though the sick were treated in well ventilated tents.

Though in some instances cholera stools have been swallowed with impunity, yet in most of such cases infection has been the result. Inoculation of small-pox on those who have neither had the disease nor been vaccinated is sometimes ineffectual.

To sum up: The evidence in favor of its contagiousness is, to me at least, strong and irrefragable, while the objections, although numerous, are either of local significance, or such as would exclude small-pox, scarlatina, typhoid, and all other infections from the list of contagious diseases.—*Medical Press*.

THE PROSPECTS OF A CHOLERA INVASION.

Though there seems to be a slight abatement of the mortality from cholera in Toulon and Marseilles, yet the disease appears to have obtained a foot-hold in Arles, a town equally distinguished for its unsanitary state, and if reports prove true, to have even spread to other localities, *e.g.*, Sigues, Lafare, Saintes-Maries, etc. Further, there has been an astounding increase in fatal infantile diarrhœa in Paris, which, if Dr. Guérin is to be believed, is a precursor of the seizure of the French metrop-

olis with the disease. The prompt measures taken by the Port Sanitary Authority at Liverpool with respect to the ship "St. Dunstan" (which had put in at Marseilles) and its crew do not appear to have been so successful in arresting the malady as at first sight appeared, inasmuch as one of the crew who was permitted to land after three days detention is reported to have been seized with what looks very much like Asiatic cholera. He will, no doubt, be promptly isolated, and every precaution that science directs taken; but we confess to some apprehension. Curiously enough cholera was imported into Liverpool from Rotterdam in May, 1866, and the general widespread epidemic of that year followed this introduction. But, on the other hand, the cases at Southampton in 1865 were not succeeded until the year after by any general epidemic, and, further, the undoubted importation of the disease to English ports from Germany in 1873 led to no extension whatever. In the latter case the improved sanitary condition of the country since 1866 had much share in the beneficent result, and, indeed, German emigrants with the disease upon them have several times traversed our sea-port towns without spreading it. We are not concerned at present with the rival theories of the etiology of the disease—whether, on the one hand, it is always imported from India, as the German pathologists aver, or, on the other, is developed *de novo* by insanitary conditions; but we must point out that three prime factors are essential for the development of the morbid virus (be it germ or chemical poison), viz., a filth-saturated soil, polluted water, and impure air. We in this country have, therefore, ample time to set our houses in order against a possible invasion of cholera by attention to these matters, and, if to them be added care of personal hygiene in the matter of regular living and exercise (mental as well as bodily), avoidance of unripe or over-ripe fruit, and of fermenting liquors, prompt notification and treatment of premonitory diarrhoea, we have little to fear. Our Government is to be congratulated on its attitude against quarantine, and its reliance upon the more rational and scientific system of medical inspection, as well as its admirable circulars addressed to local authorities. Should cholera actually make its appearance in epidemic form in London, it is interesting to know that the Metropol-

itan Asylums Board has been constituted the statutory authority to deal with it under the Diseases Prevention Act of last year, and that it has already arranged to provide about 1,500 beds in the various hospitals and infirmaries as well as its own institutions, thus forming the first line of defense. Should these become rapidly exhausted the resources of the multitudinous local sanitary authorities of the metropolis will be tried to their utmost to provide for the isolation of the victims of the epidemic.—*Medical Press.*

Selections.

MEDICINE.

WATER IN THE DIETARY OF YOUNG CHILDREN.—In a communication to the *New York Medical Journal* Dr. Remsen, of the Nursery and Children's Hospital, calls attention to the general ignorance which prevails as to the necessity of furnishing infants with a sufficient quantity of water, especially in hot weather, and whether they are brought up at the breast, or artificially. For want of this the fluid portion of any food introduced into the stomach is quickly taken up, leaving the solids too quick to be easily digested. They ferment, and produce indigestion and diarrhea, together with colic. As a consequence of the thickened state of the blood thus produced, excretion of sweat is arrested, and a state of hyperpyrexia is produced. In warm dry weather babies will drink cool water every hour or oftener, if it is offered to them, as it should be. The earliest sign of the water in the system being below the normal standard is a slightly depressed condition of the anterior fontanelle. This may be present in children apparently in perfect health, yet in whom a slight increase in temperature, or a deprivation of the breast for a few hours, may give rise to sudden hyperpyrexia. Attention is first usually aroused by the fretfulness of the child, a moderate rise of temperature and pulse, a hot dry, skin, and a constant desire to suck. If a free supply of water be given, and the nursing be restricted in frequency, these symptoms will often disappear quickly and completely, but if not, collapse will soon come on. The temperature ranges from 105° to 106° or higher; the pulse is small and thready, numbering from 180 to 200, the skin of the body is painfully hot, while the extremities are cold; the features

are pinched and sunken, with the eyes half closed and the pupils contracted; the fontanelle is depressed, the hands are tightly shut, the respiration is hurried and irregular, and consciousness seems abolished. A child in this state will swallow water with the utmost greediness and with pleasure. The treatment adopted at the Nursery has been to wrap the patient in a cold sheet, applying cold to the head, and giving as much cold water as can be swallowed. The results have been very satisfactory, the child becoming quiet, and even going to sleep, while all the threatening symptoms rapidly subside. The attention given to this point as a prophylactic measure has been followed by a diminished rate of mortality, and a marked reduction in the number of gastric and intestinal complaints. If more care was taken to give children a proper amount of water, and their hours of sucking and feeding restricted, the mortality due to hot weather would decrease, and less would be heard about the troubles of teething.—*Canada Lancet*.

IMPROVED METHOD OF APPLYING CHRYSOPHANIC ACID IN PSORIASIS.—M. Besnier is now engaged on a series of experiments regarding the best manner of using Auspitz's method of applying certain substances to the skin in a solution of gutta percha in chloroform traumaticin. He has used chrysophanic acid in the treatment of psoriasis by first brushing the patches energetically with a strong brush soaked in a fifteen per cent solution of chrysophanic acid in chloroform. The duration and energy of the application should vary with the thickness of the psoriatic patch. The acid gives rise to a sensation of heat and pricking which is not severe, and soon passes off. In a few seconds the chloroform is evaporated, and the patch being literally infiltrated with the acid, is stained of a deep yellow. Then with a large flat brush traumaticine is applied over and beyond the edges of the patch. The result is said to be excellent. The artificial cuticle referred to is made by dissolving one part of purified gutta percha in ten of chloroform. This makes an excellent medium, as it adheres firmly and without alteration for three days or more. On comparing it with gelatinous excipients the latter are seen to possess the following disadvantages:

1. They are liable to be rubbed off by contact with the limbs or clothing, and thus require several renewals.

2. The gutta percha compound on the other hand forms a thinner cuticle than collodion or gelatine, producing no tension or pain.

3. Its neutral character adapts it as a protective investment to parts however sensitive.

4. It exerts a more equable pressure than gelatine, the flexible elastic gutta percha adapting itself better to uneven surfaces. Gelatine forms a brittle coating so that an addition of glycerine is needed to render it pliant, and prevent it from contracting after it is dry, especially when joints are to be covered.—*Practitioner*.

SALICYLIC ACID IN FOOD.—The French Comité Consultatif d'Hygiène Publique has on two separate occasions reported against the use of salicylic acid, even in small quantities, as an agent for the preservation of articles of food. As this conclusion has been much opposed by those interested in such employment, a sub-committee of the body in question has reconsidered the matter, and their reporter, Prof. Brouardel, has recently published their conclusions. He observes that, although the beneficial action of salicylic acid in certain diseases is fully demonstrated, the theory of its action is but very imperfectly understood. It is known, however, to be eliminated by the liver and kidneys, and its warmest partisans admit that its use is contra-indicated in the subjects of these diseases which prevent its due elimination and thus give rise to an accumulation that in several instances has proved fatal. Moreover, elimination is sometimes impeded from unknown causes in persons in whom these functions work healthily, while in aged persons it is always very slow. Under any circumstances only a portion of the salicylic acid is eliminated the remainder undergoing combination in the tissues, which, though they may be therapeutically useful, and for a time produce no evil consequences, could not indefinitely be prolonged without mischief. Even small doses of the salicylate may prove dangerous to persons who eliminate it imperfectly, and Prof. Brouardel's investigations during several years past have led him to believe that such persons are largely on the increase. Since 1861 he has analyzed the urine of all persons entering the hospital service, and his registers show that the frequency of albuminuria has more than doubled within the last twenty years. Now, these patients

are not all doomed to an early death, for many recover, and others live for many years; and when young and robust persons tolerating the daily use of from four to six, grammes of the salicylates for months and years, we must not forget the aged persons and albuminurics, and subjects of various kinds of renal and hepatic diseases, whose lives might be seriously compromised by such a regimen. The committee, therefore, believing that for such persons the use of salicylic acid would be dangerous, while for those in good health there is no proof that it would be innocuous, recommend that its present prohibition be maintained.

—*Med. Times.*

PHARMACOLOGY OF CANTHARIDIN.—Dr. Liahknitzky's very able inaugural work will undoubtedly take a very prominent place among contributions to the study of the pharmacological action of cantharides. He made his researches at the laboratory of P. Sushtchinsky in St Petersburg, and used for his numerous experiments frogs, dogs, and rabbits, into which he introduced by various ways both cantharidin and cantharidate of soda. He sums up his results as follows:

1. The physiological action of cantharidate of soda is identical with that of cantharidin.

2. Cantharidin and cantharidate of soda produce an increase in the frequency of the heart's action in consequence of paralysis of the vagus.

3. It does not display any manifest influence on the arterial tension, since the latter is lowered only under toxic doses, in the period before death in consequence of the weakening of the heart.

4. It causes a retardation of respiration in cold-blooded animals in the very beginning, and in warm-blooded after a preliminary acceleration, the phenomena being dependent upon weakening of the respiratory centre.

5. It does not change the excitability of muscles or of the motor and sensory nerve fibres.

6. In cold-blooded animals there is a loss of reflexes, which depends upon lesions of the cord.

7. The main ways of elimination of cantharidin out of the system are the kidneys and intestines.

8. On being introduced into the blood, cantharidin is found in almost all organs of

the body, but the greatest quantities are detected in the liver, kidneys, salivary glands and brain.

9. The lesions of the bowels, which occur even on extravenuous injections, present one of the most marked features of poisoning by cantharidin. These lesions are caused by the excretion of cantharidin by the mucous membrane.

10. Cantharidin produces slight oscillations of temperature, tending generally to lowering.—*Lon. Med. Record.*

SURGERY.

ACUTE ATROPHIC ANTERIOR POLIO-MYELITIS OF ADULTS. — By Professor H. Nothnagel, Vienna. Published in the *Med. Press and Circular*.

The patient is a young woman, æt. 22, who complains of difficulty in walking. She states that up to her seventeenth year she was perfectly healthy and well developed, that she then became suddenly unconscious at a ball and remained in this condition for six weeks. If we now look at the legs of the patient we see that they have lost their normal contour. Power of movement has not entirely disappeared, but it is very limited. There is spastic contraction of the left tendon achillis. This imperfection may depend upon two causes (1), upon an affection of the medulla spinalis (neuropathic origin); (2) upon atrophy of the muscles (muscular origin). The skin is decidedly thickened, it might be anasarca, but the pressure marks of the fingers do not remain, it is, therefore, fat.

The muscular structures are, on the contrary, reduced to a minimum. As regards the upper extremities, the normal contour is retained, all movements are here possible. In the back we find lordosis and scoliosis; pressure over the sixth and seventh cervical vertebræ is painful. The spinal muscles are atrophied. The patient can not raise herself erect, i.e., without the aid of her arms; as the abdominal muscles contract well, this inability is owing to loss of power of the muscles of the anterior aspect of the thighs and of the spinal muscles. No disturbance of sensation is observed, the other parts of the organism are sound.

The bones of the lower extremities are a little behind the normal development as to length, there is a certain amount of aplasia

(want of development) of the substance of the bones. We further find great atrophy of the muscular structures, and marked hyperplasia of the fatty tissues from the seat to the extremity of the foot. The principal part was played by the atrophy; functional disturbance runs parallel with this. The case is one of acute anterior atrophic poliomyelitis of the adult.

It was formerly believed that this condition could develop only in children, and for this reason the disease acquired the name of spinal paralysis of children, but it has been proved that the disease may occur in grown up people. We have here to deal with a case of pronounced spinal disease, inasmuch as the pathological process is located in the gray anterior cornua. This process, the essential pathology of which is not yet clear, i.e., whether the process is inflammatory or degenerative, has finally this result, that atrophy of the large ganglionic cells in the gray anterior cornua takes place, this in rare cases progresses so far that complete lacunæ are formed in the anterior substance. The ganglionic cells are replaced by connective tissue. This process may extend over large tracts of the spinal cord, but it may also be limited to isolated portions. In one case all the four extremities are affected, in another only an arm, a ball of a thumb, or only a triceps, etc. The clinical picture which this anatomical disease affords is manifested principally in disturbance of nutrition, and, by the side of this, in disturbance of motor innervation, in paralysis. The disturbance of nutrition affects the muscular structures, and, along with these, in childhood, the bones. The skin is not affected, on the contrary a compensatory thickening here takes place. The functional expression of atrophy of the muscles is paresis, there is no disturbance of sensibility. When this condition develops in children we get the disease long known as essential paralysis.

Heine, of Cannstadt, about the year 1840, proved that the affection was of spinal origin. It has since been shown by Charcot, Leyden and others, that the disease is due to degeneration of the gray anterior cornua. It is only for the last fifteen years that we know, and this was determined by Kussmaul, that the disease does—very rarely, however—attack grown up people.

There are very considerable differences

as to the rapidity of the onset of the disease. Many spinal affections develop slowly, insidiously, gradually; others rapidly, and prove fatal quickly, or they develop rapidly and then remain stationary, so that a chronic stage succeeds the acute. According to the mode of development we apply the adjective of time, and we speak of a polio myelitis *acuta*, *acutissima*, *subacuta* and *chronica*.

The patient became suddenly unconscious at a ball, and lay unconscious for six weeks. We know the so-called spinal paralysis of children usually comes on very rapidly, that it is a poliomyelitis *acutissima*. For example a mother puts her child to bed in the evening, and in the night she notices that it is unconscious, and when, after some hours, the child is taken up, it is discovered that it is paralyzed in every limb. The loss of unconsciousness may be completely absent, in other cases it may last some hours; in others, again, some days, and in others longer still. Upon what this symptom of unconsciousness in a case of pure spinal disease depends we do not know, possibly it is an acute infective disease.

The disease may also attack adults in the same acute manner.

It is a little striking, and the statement must be received with some doubt, that the unconsciousness in the case of our patient lasted six weeks. The child, after four to six days begins to move one or the other of the extremities, but emaciation during that time is striking.

And now you have the picture of the disease before you.

Return of the power of movement is explained by retrogression of the anatomical process in the various localities, at one time more here, at another more there, and for this reason the paralysis is variously manifested. When the muscles are atrophied and the child continues to grow, in place of the muscles a yellow tissue remains, which is filled with fine glandular contents. The bones remain behind in development, and the child's legs remain short. In progressive muscular atrophy the *panniculus adiposus* usually remains normal, while in this affection it becomes hyperplastic. The prognosis *quoad vitam* is favorable, persons so affected may become eighty or ninety years old. The disease was formerly declared to be absolutely incurable, and even to-day the prognosis

quoad restitutionem is unfavorable, and it is only in a few cases that restoration can be brought about, but in some cases improvement is possible. When a child or an adult is attacked with this disease, it will be your task, as soon as the inflammatory pyrexial symptoms have passed away, to treat the case on two main lines, viz: by galvanization and faradisation and by massage. The spine must be galvanized by the constant current, and the paralyzed limbs must be faradised and treated by massage. But you must here, as in other cases, continue your treatment uninterruptedly for one or two years.

RODENT ULCER AND ITS RELATIONS TO EPITHELIOMA.—There seems to be now almost an agreement between pathologists on the subject of rodent ulcer and its relations to epithelioma. But the question is not yet entirely settled, and the investigation whose results I am about to state was undertaken with a desire to aid in definitely determining the pathology of the former disease.

Since the publication of Thiersch's atlas, the existence of peculiar cell-masses has been accepted as the distinguishing feature of rodent ulcer. The point on which opinions have mainly differed have been as to the genesis of these cell-masses. Thiersch considered them to be of epithelial origin, and from their general form and character he was of the opinion that they took their rise from the hair follicles. This view has been generally adopted, and among recent writers has been especially advocated by Drs. Tilbury and Colcott Fox, who traced the growth to the external root sheath of the follicle. This sheath being an extension of the Malpighian layer of the epidermis, from which the growth in epithelioma is known to spring, this view necessarily reduces the difference between the two diseases to a minimum. On the other hand, Dr. Thin has maintained the belief that rodent ulcer is in reality a cancerous adenoma of the sweat glands. He traces the origin of the cell growth to the secreting epithelium of those glands, and not to any epidermic structure, and thus assigns to the disease altogether distinct from the epithelial cancers. Between these two views there is no doubt that the balance of evidence is decidedly in favor of the former, but on neither side has the endeavor to trace the actual development of the new

growth from its origin been altogether satisfactory.

During the past five years I have had opportunity of examining specimens from eight cases of rodent ulcer. In the first five of these cases the portions of skin obtained were too completely involved in the disease to admit of other than a conjectural opinion as to its origin. I therefore determined, as opportunity occurred, to obtain portions of skin as far as possible removed from the edge of the ulcer, in the hope that a methodical examination from thence toward the ulcer would yield important evidence as to the structure in which the morbid action begins.

Three cases—the correspondence of which in all particulars with rodent ulcer was exact—have afforded me material for continuing the examination in the way proposed. The facts obtained are the same in all of them, and are altogether in agreement with the results of my previous study of the disease. They seem to me, therefore, to justify certain definite conclusions. In the first place, they are entirely opposed to the view that rodent ulcer is a cancerous adenoma of the sweat glands; the number of cases that I have examined in an exhaustive manner would certainly not warrant the position that rodent ulcer never begins in these glands. But even in Dr. Thin's investigations the connection between the rodent masses and the sweat glands was not traced, and it seems probable that where morbid changes have been found in them, these were of a secondary character, as they undoubtedly were in my own cases.

The only conclusion which seems to be borne out by all the facts, both pathological and clinical, is that rodent ulcer is a form of epithelial cancer which begins in the external root sheath of the follicles and in the sebaceous glands. It is of the same essential nature, therefore, as epithelioma, but it differs pathologically in the mode of development of its cell growth, just as it differs clinically in the absence of gland infection, and in its slight general malignancy.

It was suggested some years ago, by Mr. Jonathan Hutchinson, that the difference between the two forms of epithelial cancer must somehow be determined by the locality in which they occur. The observations referred to certainly go to establish the correctness of this idea. Commencing in the

continuity of a skin surface, rodent ulcer is particularly apt to attack that part of the face — the side of the nose — in which the sebaceous glands are strongly developed, and I have been able to trace clearly the manner in which the structure, when the disease begins, determines its onward course. As bearing upon the supposed influence of locality, it would be an important point to decide whether an ulcer which began as an undoubted rodent ulcer in the upper half of the face may not be changed to the epitheliomatous type, when in its ravages it reaches the region of the mouth. One or two cases which I have seen in a very advanced period of their course, in which invasion of the region of the mouth seemed to be speedily followed by glandular infection, seemed to lend countenance to this view. — G. H. Hume, in *British Med. Jour.*

NOTES ON THE REGENERATION OF EPITHELIUM AND PIGMENT.—(A. A. Lendon in *Australian Medical Journal.*)

I have noticed for some time in cases of burns and scalds, chiefly the latter, that when the injury is of the third degree — that is, when the “cutis vera” has only been partially destroyed—healing has frequently taken place with great rapidity, although the superficial extent of the ulcer after the separation of the sloughs may have been very great; and further, that in such cases the rapid healing has been due to numerous foci of cicatrization which have sprung up spontaneously, and giving the ulcer the appearance of having been successfully grafted. I have never observed this rapid process of healing in cases where the injury was of the fourth degree, that is to say, where sloughing had extended down to the subcutaneous tissue.

No adequate explanation occurred to me until recently, when I had under observation an adult negro, who, ten days before I first saw him, had sustained an extensive scald, involving the whole anterior and lateral aspect of one leg. It was chiefly of the second degree, the cuticle and its pigment having been removed by the blistering, but in the center there was a patch of about three inches where the injury was of the third degree, superficial destruction of the corium having occurred; this portion was then a granulating ulcer. On the fourteenth day after the injury the superficial scald was of a pinkish red color, but stud-

ded with numerous black dots, of which from sixty-five to seventy were contained in an area of one square inch; they were arranged in more or less regular lines, and through the center of many a hair was seen protruding; the size of the majority of them was not larger than that of a pin's head; they were evidently the orifices of the hair follicles. On the surface of the granulating portion were seen many white spots, islets of epithelium, some of them having already a central black dot. The ulcer healed rapidly and in a few days was glazed over and smooth, and now the black dots were as numerous and conspicuous as over the rest of the scalded area. At the end of a month from the time of the injury many of the black spots had coalesced with their neighbors, and the scalded surface had attained a general bluish-black tint, those spots which were still discrete being then about the size of a pea.

Up to the present time two views have been held as to the reproduction of epithelium in a wound undergoing repair by granulation. By some the new epithelium has been supposed to spring from neighboring epidermic cells, because it most usually spreads from the periphery to the centre of the ulcer; but by others it has been thought to be due to the transformation of the cells of the superficial layer of the granulation tissue, because islets of epithelium, such as I have described, are sometimes seen in the center of an ulcer, which appear to have sprung up spontaneously. This latter view has the support of MM. Cornil and Ranvier, as it seems to be corroborated by the observations on skin grafting of M. Reverdin (*vide* Cornil and Ranvier's *Pathological Histology*).

I think, however, the foregoing observations throw some light upon the question, and serve to explain away some of its difficulties, for we know that in the negro the pigment is mainly found in the deeper cells of the Malpighian layer of the cuticle, and further, that this layer is continuous with the outer root sheath of the hair follicles, which penetrate deeply into the corium, sometimes even through it to the subcutaneous tissue, and, lastly, we know that the “cutis vera” and the “epidermis” are derived from very distinct and different embryonic sources, and it is difficult to believe that epidermis, which is of epiblastic origin, can be reproduced from the tissues derived from the mesoblast, whereas the

hair follicles are known to be formed originally by involution of portions of the epiblast.

The conclusions I have arrived at are as follows:

1. Epithelium is only reproduced from pre-existing epithelium.
2. When the cuticle is completely removed, as by a blister, the regeneration of epithelium commences at the orifices of the hair follicles as well as at the periphery of the blistered area.
3. That the same process of regeneration takes place in scalds and other injuries of the third degree.
4. That pigmentation reappears after regeneration of the epidermis, even when the corium is destroyed to a considerable depth.

CARCINOMA OF THE PERITONEUM.—Most malignant new-formations of the peritoneum are carcinomatous. Those of other nature are usually secondary, either by continuity or metastasis. Enchondroma has been thus observed, exhibiting a feature of malignancy unusual, though not without precedent (Wood, *Lancet*, 1881, i., 249) Myo-sarcoma and sarcoma have also been encountered, both as primary and secondary growths. Primary peritoneal sarcoma has been reported by Kelsch and Wannen-broncq, Berlioz, Weiss and others.

Carcinoma of the peritoneum may be primary or secondary. Of late years there has been not a little confusion concerning primary carcinoma of the peritoneum. From time to time peritoneal carcinoma has been observed where every evidence of its primary development was present at the necropsy. At the same time the impossibility of such occurrence continued to be urged by the upholders of the germinal lamina theory of tumor formation, by whom it has been insisted that carcinoma, a new growth dependent for at least a portion of its structure upon tissues derived directly from the epiblastic layer of the blastoderm, could not be developed from the peritoneum, a purely mesoblastic structure. Various explanations of the apparent existence of primary cancer of this membrane have been offered. Some have assumed it to be really secondary to primary undetected formation to epithelial structure. Klebs suggested an infection of the peritoneum with epithelial elements, rather than by a carcinomatous new-growth originating

in the peritoneal endothelium, leaving to future investigation the task of determining the route by which the epithelial elements are brought to the peritoneum. These pathological difficulties have, fortunately, been greatly relieved by recent embryological discoveries, whereby practical experience may be reconciled with prevailing theory. The investigations of Hertwig and Balfour show that the lining membrane of the peritoneum is derived from the hypoblast, and that it is, therefore, a true epithelial structure. There is, therefore, no difficulty in concluding that carcinoma not only may but does occur as a primary peritoneal new-formation.

Varieties of Peritoneal Carcinoma.—The cellular element predominates in proportion to the rapidity of growth of peritoneal cancer. In the most rapidly fatal varieties the growth may have the softness of brain substance. Acute miliary carcinoma is probably always medullary. In less acute primary carcinoma both this and the fibrous (scirrhus) and colloid forms occur. The connective-tissue element will be most abundant in the slower forms and hard leathery bands of malignant infiltration will be developed. Colloid cancer, usually indicative of a more chronic course, may complicate both the medullary and scirrhus forms. Petrina records forty cases of peritoneal carcinoma. Of these fourteen were primary, nine medullary, and five scirrhus (fibrous); twenty-six were secondary—fourteen medullary, ten scirrhus, two colloid. Chuquet found that of the cases collected by him, two thirds were primary. (He also found colloid carcinoma to be the most frequent. It is more correct to speak of this as a degenerative condition of cancer than as a distinct variety, and to apply the term colloid cancer only when the colloid change is predominating. To a limited extent it can be discovered in a large proportion of carcinomas). Carcinoma may effect the peritoneum secondarily by continuity from other organs or tissues, and by metastasis. Melanotic cancer may thus rarely develop.

Symptoms and Course.—Primary peritoneal cancer may develop very insiduously, and has an indefinite and irregular course. Pain commonly first attracts the attention of the patient. This may become nearly constant or paroxysmal, most intense in some fixed region, and radiating thence to other parts of the abdominal cavity, or to

the chest, shoulders, or back, or down the thighs. It is variously described as stabbing, stinging, burning, or as a dull, heavy sensation. As a rule it gradually increases in severity until it becomes a source of unending distress or even agony. It may, however, not be present during the earlier stages, or may never acquire especial prominence. This pain is, at first, not aggravated by pressure, and it is probable that the tenderness so often observed later may usually be attributed to peritonitis. About the period of development of pain, or sometimes even earlier than this, the patient realizes he is not well. Vague disturbances of his digestive organs, anorexia, even disgust for food, and other signs of gastric indigestion, will appear with eructations, flatulence, etc. Vomiting may occur at this time, but more commonly when the disease is advanced, and is then often the result of peritonitis. At other times it follows primary cardiac or pyloric gastric cancer, of which the peritoneal growths are secondary results. Constipation will gradually become persistent and the patient will lose strength and flesh. At this time there will be no fever except in the more acute cases, and the thoracic organs will be unaffected, unless involved in a general carcinosis or subject to independent disease. In acute miliary carcinosis fever may be present from the first and the case resemble one of acute miliary tuberculosis.

Sooner or later the belly will become enlarged from the growth of the tumors, from meteorism, from ascites, or a combination of these conditions. In a large number of cases the tumors may be obscurely felt as nodules, varying in size from that of a nut to that of a child's head, deeply in the abdominal wall or more profoundly situated. At times the nodules are replaced by tracts of resistant matter not clearly definable, or by the hardened cancerous omentum crossing the belly as a broad band of induration. When felt, the tumors will be hard and resistant, except in the case of colloid cancer, when an obscure sensation of fluctuation may be perceived. Examination by the vagina and rectum will often assist the observer by revealing the infiltrations in the pelvic cavity. Not unfrequently the uterus will be immovably fixed in a mass of such material. The new formation will grow rapidly. It is uncommon, however, for them to be easily and definitely recognizable, unless of large size, since they are ob-

scured by ascitic fluid and gas within the intestines. The occurrence of peritonitis will also tend to make a diagnosis difficult by forming adhesions whereby pockets of fluid and knuckles of intestines become fixed in various positions. The surface of the belly will thus be made 'uneven' by the irregular distribution of cancer masses, localized meteorism, and encysted fluid. In the more acute forms it is not at all uncommon for the carcinomatous nodules to entirely escape recognition on account of their small size and wide distribution and the accumulation of ascitic fluid, and the true nature of the disease may not be determined *intra vitum*.

Chuquet claims that a symptom of highest diagnostic importance is the presence throughout the entire subcutaneous system and in the muscles, of "cancer granules" first described by Millard, and which are said to be perceptible to the touch. These "granules," however, do not seem to have been met with by other observers, and can therefore hardly be counted upon with confidence. What seems to be a somewhat similar condition is described by Chvostek as a scattered crepitation over the belly in peritoneal cancer, or even in peritonitis, quite like skin emphysema. He attributes the sign to fluid enclosed in very small spaces with delicate and sharply limited walls, and which is forced out by pressure. He found it only where the abdominal viscera was adherent to the anterior belly-wall by peritonitic products containing fluid in very small cavities.

Ascites is constantly present in these cases. It is due to peritonitis or pressure exerted upon venous trunks within the belly cavity, or to hydræmia. It may vary in amount from one to twenty or thirty pints. The fluid is usually clear and of high specific gravity, with floating shreds of fibrin. Its character will often be ascertained through paracentesis performed for the relief of pain or for the purpose of diagnosis. It will then be found, very often, to be tinged with blood or decidedly sanguinolent. This condition of the ascitic fluid is of the highest diagnostic importance, and has been insisted upon by a number of writers as indicating a strong probability of a cancerous origin. It must be admitted, however, that it is *possible* for this fluid to be sanguinolent in tubercular and even in chronic peritonitis. All things considered, sanguinolent ascitic fluid gives a strong

presumption in favor of peritoneal cancer; and if the sedimentary deposit of this fluid be microscopically examined (a procedure first recommended by Foulis, of Edinburgh), the detection of groups of ordinary epithelial cells will serve to determine its cancerous origin. The amount of fluid is not always proportionate to the duration of the affection. It is of the irregularly distributed, by reason of the frequent peritoneal adhesions, which also bind the intestines in such a manner that the usual position of these in simple ascites is not often observed. Another rare peculiarity of the ascitic fluid of carcinoma has been observed by Quinecke, Klebs, and Brieger. Here the fluid is milky white, and forms a creamy layer of fat-corpuscles and granular fat. Such cases have been supposed to represent chylous ascites. Brieger, however, thinks that there is no escape of lymph, but that the appearances are due to fatty degenerations of peritoneal epithelium. After paracentesis, peritoneal friction sounds may sometimes be heard. General dropsy frequently occurs later, though œdema of the lower extremities has been known to precede ascites. Pericardial and pleural effusions arise from cancerous mesastasis or extensions, and the abdominal wall may become œdematous. Œdema of the lower extremities from pressure upon large intra-abdominal veins may become very intense, and may lead to erythematous, erysipelatous, or even gangrenous inflammation. When pressure is exerted upon the ascending vena cava, the veins of the abdominal wall become very large and tortuous, with reversed blood-current.

It has been said that constipation is nearly always present early in the disease. This will be associated with more or less localized meteorism. These accumulations of gas sometimes press the diaphragm above its natural limits, and add greatly to its discomfort. Attacks of diarrhœa may alternate with constipation, and towards the end diarrhœa may become persistent. On the other hand, the lumen of the bowel may ultimately be destroyed, and the patient perish with the symptom of obstruction. Hepatic and urinary disorders, as direct results of the carcinoma, are not constant. Jaundice may be occasioned by pressure of the new-growths upon the bile-ducts. The renal functions are not often disturbed. The urine will often be highly acid and deposit urates freely. Micturition

may sometimes be painful and frequent from implications of the bladder.

While these symptoms are developing, the patient's general condition becomes markedly worse. In a short time, possibly several weeks, more often several months, the various disturbances of nutrition, together with the rapid increase in numbers and size of the cancerous growths, will have induced that peculiar condition known as the cancerous cachexia, which will, of itself, often direct attention to the true nature of the disease in obscure cases. Tenderness to pressure will be superadded to the ever increasing distress. Rapid emaciation and increasing debility results from diminished assimilation, pain, sleeplessness, and general discomfort. The inguinal glands may become enlarged and indurated, and metastatic deposits may occur in other parts of the body. Cancerous infection of the tract of puncture of paracentesis has been observed by Brieger, Quincke, Unruericht, and Chuquet. Fever, which may have been present from a very early period, will sooner or later appear and become constant. Pain, insomnia, nausea, and vomiting, alternating constipation and diarrhœa, profound debility combined to intensify the sufferings of the patient until death occurs, from the development of the cachexia, from pulmonary œdema, pneumonia, perforation of the bowels, peritonitis, hemorrhage, or some intercurrent affection.

When the peritoneal carcinoma originates through continuity of metastasis, its symptoms will blend with those of the primary affection, and will often play a role quite unimportant; or it may become diffused with great rapidity. In such cases, of course, the symptoms of the primary disorder will not be mitigated by the involvement of the peritoneum, but may be less sharply defined than when uncomplicated with those of secondary formations.

Durations and Prognosis.—Peritoneal carcinoma probably runs its course more rapidly than any other form of cancer, ending fatally in from four to six months. Rarely cases terminate within a few weeks after the *apparent* beginning of the malady. On the other hand, life may be prolonged for a year or eighteen months. Vidal reported a case that lasted two and a half years (Chuquet). This seems to be the extreme. Petrina gives the medium duration of primary peritoneal carcinoma, reckoning

from the earliest fever, as six weeks, and of secondary cancer as from one to three months. The shortest course observed by him in primary carcinoma was one week; the longest, six months; and in secondary cancer the shortest duration was three weeks; the longest; eighteen months. Other authorities give a longer average duration to the disease, though all agree that the fatal termination will generally come within six months.

Etiology.—This is not obscure. Traumatism has been ascribed as an occasional cause of primary carcinoma of the peritoneum, but it is very doubtful. Probably, also, chronic peritonitis rather occurs as a consequence than as a cause of the newformation. Heredity exerts a positive but indeterminate influence. Although there seems to be no time of life at which peritoneal cancer may not occur, it is prone to appear after middle life. It has been observed in infancy and even in the fœtus. The following table of Petrina and Chuquet shows the ages of the patients recorded by them.

PETRINA.			CHUQUET	
Age.	Male.	Female.	Cases.	Total.
10-20	—	1	1	2
20-40	1	2	9	12
30-40	—	2	5	7
40-50	6	2	4	12
50-60	4	7	13	24
60-70	3	7	4	14
70-80	2	3	5	10
	16	24	41	81

It thus appears that nearly one third of all cases occurred between the ages of fifty and sixty, and three fourths of all after the fortieth year. Sex has a decided influence, females having a much greater liability. Of Petrina's forty cases, sixteen were males and twenty-four females. Chuquet records the sex of forty-four cases, of whom seventeen were males and twenty-seven females. The greater liability of females is probably due to the comparative frequency of cancer of the female genital organs, and its extension to the peritoneum. Secondary cancer arises by extension or metastasis from other parts organs. Chuquet concludes that the centres most often the seat of the primary

deposits, are, in order of frequency, ovaries, stomach, liver, and uterus. Petrina's tables show, however, the stomach and pylorus to be the most frequent primary centres of twenty-nine cases of secondary peritoneal cancer, the stomach and pylorus were primarily affected in seventeen, the ovaries, Fallopian tubes, and uterus in four, the liver in three, the pancreas in two, the mesenteric and retroperitoneal glands in two.

Diagnosis.—This is frequently of extreme difficulty, especially in primary carcinoma; indeed in rapidly fatal cases the nature of the disease may be only determinable after death. At best, the earlier stages usually escape recognition. The affections most apt to be confounded with peritoneal cancer are peritoneal tuberculosis, cancerous and other tumors of the abdominal viscera, ascites from cirrhosis, hydatid and ovarian cysts, meteorism and impacted feces. When the malady is secondary it is not usually difficult to attribute the new symptoms to their true cause. Their appearance, more or less complete, in a person known to have gastric, ovarian, hepatic, or other variety of cancer, will readily be recognized as indicating an extension or metastasis. Cancer secondary to undetected primary growths will not differ from primary forms in the difficulties of its recognition. Tubercular peritonitis may present the closest clinical analogies with rapid peritoneal carcinoma. There may be the same early development of ascites, the rapid wasting and debility, the abdominal pain, even the formation of tubercular masses detectable through the abdominal wall. Diffusion of nodules to other serous membranes may occur in both affections. Carcinoma, however, may be, indeed, is often quite devoid of fever, which, when present, is quite irregular and unlike the fever of tuberculosis, the evening exacerbations of which are characteristic. The ascites of cancer is more abundant than that of tuberculosis, though in both affections the fluid may be irregularly encysted through inflammatory adhesions. Although pain is present in tuberculosis, it is altogether less than in cancer where it seems often quite out of proportion to the amount of appreciable disease. The existence of tubercle in other organs and the presence of persistent diarrhoea, should give a prejudice in favor of similar disease of the peritoneum. This, however, should not

be held too rigidly. Cancerous tumors of the stomach and liver are usually unaccompanied by ascites, unless the peritoneum becomes involved, or secondary deposits occur, compressing the vena portæ or ascending vena cava. In the latter case œdema of the lower extremities will also be present. Hepatic cancer will also show the influence of the diaphragm in following the respiratory movements. Sarcomatous tumors of the peritoneum or intra-abdominal organs, or of the retro-peritoneal glands, do not afford well marked clinical differences with carcinoma. Simple tumors are to be distinguished by their benign course. Ascites from hepatic cirrhosis is of more chronic course, is more painless, and presents altogether a different clinical history.

The apparent cachexia of cirrhotic patients may at times be misleading; but the symptoms of hepatic contraction will be present, and the absence of tumors may be ascertained through paracentesis. Hydatid and ovarian cysts have a slower development and a localized development of fluctuation. They are, also, usually painless, unless complicated with peritonitis. The hydatid thrill, when present, will assist the diagnosis. It should not be forgotten that ovarian cysts are sometimes associated with carcinoma.

Meteorism may distend the belly-wall, but the pure tympanites, and its dispersion under appropriate treatment, will distinguish it. Also, fecal accumulations may be recognized by their plasticity, and their removal by proper purgation.

The presence of painful intumescence of the belly (with or without fever), with irregularity of surface caused by associated areas of dulness and resonance from fluid, gas, and tumor formations of rapid growth, with emaciation, pain, and the development of cachexia, will usually suffice to distinguish peritoneal carcinoma. Ascites may, however, be so intense as to prevent the recognition of other physical conditions, in which case paracentesis may be resorted to. This should be done with due caution, as it is sometimes followed by unhappy results, especially in cases of colloid cancer (Faucon: *Jour. des sci. med. de Lille*, iii., 177). The operation is contraindicated where the physical conditions allow a tolerably certain diagnosis to be made, and should never be done unless the patient be confined to the bed and vigi-

lantly cared for for several days afterward. If, after paracentesis, a solid tumor be detected, the presumption in favor of its malignant nature is strong. The character of the ascitic fluid is of the utmost importance. It may be like ordinary ascitic fluid, but it is very often sanguinolent, a condition almost characteristic of malignant disease. The detection of epithelial cells, such as occur in carcinomatous growths, in the sediment of this fluid, may be considered as conclusive of its cancerous origin.

Pathological Anatomy. — In necropsies, after the more acute primary cancers of the peritoneum, the nodules may be found scattered over every part of the membrane. They may be no larger than millet-seed, and of a whitish or grayish color, and without inflammatory areola. Miliary tuberculosis may be closely simulated. Usually, the nodules vary within much wider limits, often attaining the size of hen's eggs or oranges. They remain sharply circumscribed, or merge into masses of greater or less extent, sometimes forming great plates of infiltration. In the mesentery, Chuquet asserts that the nodules commonly are situated near the points of intestinal attachment. Nodules of the size of a grain of wheat, or of a pea or bean, are very apt to have central depressions, differing thus from tubercle. In the process of growth they tend to assume a spherical form, and may even become pedunculated, showing a resemblance to clusters of white currents (Bristowe); or the pedicles may become reduced to mere threads, and indeed, as in a case reported by Matthews Duncan (*Med. Times and Gazette*, 1872, ii., 432), they may be severed and the nodules float free in the abdominal cavity. Sometimes the new growth at first looks as though drops of melted white wax had fallen upon the membrane and there hardened, an appearance also met with in cancer of the intestinal mucous membrane. When diffused infiltration of the membrane occurs it may, in proportion to the rapidity of its development, have the characters of medullary or of scirrhus cancer. The colloid change may affect either variety.

In medullary cancer, soft, brain-like masses may line the parietal peritoneum, forming infiltrations of great thickness; or, involving the peritoneal coat of viscera, may deeply imbed them, sometimes without involving their structure. The greater omentum may thus become greatly thick-

ened. Such masses may form, with inflammatory products, conglomerations of bowels, peritoneum, and viscera. This is especially the case in the pelvic cavity. The new growths will be of light or dark gray or reddish color, with often brownish centres from extravasation. Scattered throughout the masses little cystic accumulations of clear gummy fluid may often be discovered. A granular or mammillated aspect will be presented, while in structure such friability may be presented that the infiltrations readily break down under the finger. Masses may attain the appearance and size of the adult human brain.

In more chronic primary carcinoma, the new growth may be more localized and the tumors be much fewer in number, though sometimes reaching great size and weighing several pounds. The softer varieties are usually very vascular. In the scirrhus forms, the peritoneum may be thickened by a dense infiltration, giving it a leathery appearance; and the great omentum, reduced to a contracted and thickened band, will stretch across the abdominal cavity. Colloid cancer, which will be frequently met, will be recognized by its semi-fluid, gelatinous appearance. It is apt to form great masses, and to be widely diffused. In all varieties the peritoneum will often be opaque and thickened almost throughout. Primary peritoneal cancer may also be metastatic, attacking neighboring parts or viscera; or, it may spread by continuity, growing into adjacent organs from the surface, or, extending through the diaphragm, involve the pleuræ. Sometimes organs are completely destroyed by the infiltrations. This is especially the case with the ovaries.

Secondary cancer of the peritoneum will usually be found most densely distributed near the primary centre, whence it has extended by continuity. In such cases, the colloid form is very frequently observed. The anatomical conditions will only differ from those of the primary forms in the superadded pathological changes. The intestines will show various degrees of alteration. They will be more or less constricted, the narrowing reaching its highest grades in the cases where the mucous membrane was primarily affected. Swelling and oedema of the mucous membrane are often found. In all cases evidences of peritonitis will rarely be absent; and masses will sometimes exist where central

softening has occurred. Perforation of the bowels, with escape of their contents into cavities thus formed, is not unknown; and limited areas of fatty degeneration and calcification occasionally are detected. Evidences of hemorrhages, of greater or less extent, are not unfrequent.

Treatment.—As the affection runs a necessarily fatal course, treatment must be directed toward the alleviation of suffering and the assistance of the powers of assimilation. Other indications for treatment must be met as they arrive. No treatment addressed to the carcinoma itself will avail. —I. E. Atkinson, M.D., in the *Archives of Medicine*.

MAKING A SQUINT TO IMPROVE VISION.
By Julian J. Chisholm, M.D., in *Medical Bulletin*.

Experience in surgery means the adaptation of means to secure the desired result. The plan of operative procedure is not always that of regular methods, as per text books. The special application of a familiar operation may secure so good a result as to warrant the extravagant use to which it is put.

In eye surgery an opportunity may present itself in which the most desirable effects can be obtained by a comparatively simple though unusual operative procedure. The case herewith reported is one of this nature, in which the tenotomy of an unoffending muscle was made to produce a beneficial squint, reversing the order for which tenotomy of eye muscles is usually undertaken.

W.T., aged 28, had purulent ophthalmia in infancy. The right eye was injured by corneal sloughing, and is now an atrophic stump. The left eye was also seriously affected with restricted corneal ulceration, which perforated the coat, emptying the anterior-chamber. The corneal perforation was closed by adhesions of the iris, leaving a clear pupil in a most unusual position.

He applied to me for aid twenty-seven years after the attack which had so materially damaged his vision. I found him with sufficient sight in the left eye to get about. He had been educated at the blind asylum, and could speak intelligently of his condition. Upon examination I found the right eye destroyed. The lower three-fourths of the left cornea were opaque, and to this the iris was freely adherent. A clear pupil, round in shape,

and of good size, extended from the cicatricial cornea to the ciliary border. At first glance it gave the appearance of a very successful iridectomy having been performed. A closer inspection showed an upper rim of pupillary border, the original sphincter pupillæ, an evidence that no operation had been performed. The normal position of the upper lid nearly concealed the pupil, exposing only the lower portion of the opening, where the cornea was somewhat hazy. When he desired to see most clearly, he lifted the lid with his hand. This was an awkward manipulation. He applied to me to know whether an operation for shortening the lid so as to keep it permanently propped up, would not add to his comfort. It occurred to me that a better and much more permanent result could be secured with much less disfigurement by cutting the superior rectus muscle. It would create a downward squint, and would allow the pupil to take up a position clear of the border of the upper lid, and it would, therefore, assume nearly its normal place, as regards the blepharitic fissure.

As the operation was not likely to damage the sight which he valued so highly, and also promised to improve it, he willingly consented to its performance. Under the quiet sleep of bromide of ethyl, the upper rectus tendon was divided. The lower rectus, having now no opposition, rotated the eyeball downward, just enough to give the displaced pupil the desired central position.

I saw the patient one week after the operation, the day previous to his leaving Baltimore. He came to thank me again for the improved vision, which he had recognized as soon as he came out of the ethyl sleep. He has for the past week experimented extensively with his newly acquired field of vision, and expresses himself very much pleased with the result. The central position of the pupil has improved his appearance, and he has the comfort of seeing now as he only formerly saw when he lifted the upper lid with his hand.

The improvement promises to be a permanent one.

The case is reported because this method of procedure is not known to surgeons generally, and because eye surgeons are not as familiar with it as they should be. After receiving my opinion the patient consulted

two distinguished specialists in eye work. They both advised against such an operative procedure, with which they had had no experience. With tenotomies for the correction of squint they had both had very large experience. With tenotomy for the creation of a squint by which sight was to be improved, they knew nothing.—*The Medical Bulletin*.

NITRITE OF AMYL IN EPILEPSY.—The editor of the *Alienist* says one method of treatment is to put a drachm of amyl nitrite into a two inch long, three-drachm vial, placing a small sponge between the liquid and the cork, instructing the parent or attendant to keep the vial accessible in the pocket, and upon the first sign of approaching spasm to withdraw the cork and apply to the nostril a sufficient time to slightly suffuse the face, and adopt the same method shortly before the expected paroxysm, and several times a day when convulsive recurrences are frequent. He has had the most satisfactory results with old and young by this method. The dose of the amyl nitrite should be regulated by the effect produced rather than quantity, provided the inhalations are very brief. A few seconds only for an inhalation, and not repeated oftener than every six hours.—*Canada Lancet*.

TREATMENT OF HEMORRHOIDS.—In the minor cases, Verneuil recommends (*Gaz. des Hopitaux*) cold douches and laxatives; in the severer form, he prefers forced dilatation to all other means. He regards the usual method of stretching with the fingers as insufficient, and recommends Ricord's or Lisfranc's speculum for the purpose of dilating the sphincter to its maximum, the patient being at the time under the influence of an anæsthetic. Eight days is usually sufficient for the cure. The author has never experienced any ill results from the operation.—*Medical Times*.

HORSFORD'S ACID PHOSPHATE In mental Exhaustion from Hard Study, Dyspepsia, and as a Tonic. — *Dr. R. K. Hinton*, Philadelphia, Pa., says,

"I treated a case of mental exhaustion by overwork, produced by hard study, in a young lady of sixteen, with Horsford's Acid Phosphate, and found it invaluable in her case, restoring sleep, and to-day her general health is good. I have used and prescribed the Acid Phosphate in some forms of dyspepsia with happy results, and as a general tonic for weak and debilitated persons, it is invaluable."

Original Articles.

FOUR CASES OF ABDOMINAL SURGERY WITH COMMENTS.⁽¹⁾

A Paper read before the Indiana State Medical Society, July 11, 1884.

By JOSEPH EASTMAN, M.D., Indianapolis, Ind.

I was induced to write this paper from some experience with an ovarian cyst which had been treated for ascites for six months with elaterium, tapped after it had ruptured, and by a paper read by Dr. Sutton before the Gynecological Section of the American Medical Association, in which he declared that *no one* has a warrant for abdominal surgery, unless he has seen a great amount of the work actually done, is willing to make it the special work of his life, relinquish the general practice of medicine and surgery, and operate in a private hospital.

I admit that ovariectomy is not an operation to be undertaken by everybody; and that increasing experience of one naturally adapted, will contribute to greater success.

But, when we take into consideration the mental condition of the patient⁽²⁾, and the fact that the *purest* hospital may become unavoidably contaminated, and that erysipelas may develop in a case where it was not thought of, I doubt the propriety of our declining to operate, occasionally, in the pure atmosphere of a country or village residence, where we can have a competent nurse, and the surgeon can stay with his case for *one week* at least. So I cannot entirely agree with the proposition he presents as to *where* to operate (at least until we shall be better provided with private hospitals). I am of the opinion that in his emphasis of *who should* and *who should not* operate, and his unconditional restrictions as to *where* to operate, he lost sight of the most important question, which should be kept before the profession and the public, viz.: When to operate.

Let us conscientiously study all the factors which make the contrast between European and American success, and, to that end, I select four cases from my work as a basis, believing that they repre-

sent two classes of cases which we meet and that the time has come when in this Society the subject should be discussed.

CASE I.

Mrs. A., 44 years of age, married, the mother of two children; noticed an enlargement in abdomen nine years ago; consulted several physicians during this time; consented to nothing but tapping, which, of late, had to be resorted to as often as every month; not that there was such a great distension of abdomen, but she seemed to be distressed by a less amount of fluid than formerly; the abdominal wall seemed to have lost its elasticity. I saw her early in March, 1884, diagnosed ovarian tumor (pulse 100, temperature 97°), and after giving my opinion of such cases, viz.: that every passing month added to the doubt of a *successful operation*, she sent me word to begin the preparatory treatment. Through Dr. Graydon, her physician, I ordered tinct. iron, Hall's sol. strychnia, before meals; also Dorsey's mixture, to maintain the proper condition of bowels. While waiting for proper weather, and the period of menstruation, she had to be tapped in the interval. At this consultation Dr. Todd was present, and he was of the opinion that unless her condition was improved no operation should be performed. I asked that only enough fluid be drawn to give relief, and noticed that the fluid ran through the opening after the withdrawal of the trocar. I decided that the cyst-wall was rotten, that its tissue had not enough contractile power to arrest the outflow of fluid. Temperature 99°, pulse 110.

On April 12, believing that her condition was as good as it ever would be, we prepared for the operation. Assisted by Drs. Sutcliff, Bryan and Button, of this city; and Drs. Grayden, Ward and McNutt, of Southport, I made an incision in linea alba below the umbilicus, having reached through the peritoneum, I passed my finger, to ascertain the extent of adhesions to the abdominal wall; while doing so, in the gentlest manner possible, the cyst bursted, the fluid emptying out on the oil-cloth spread over the patient, but it could not enter the peritoneal cavity, as subsequent examination showed the cyst to be adhered to entire surface of abdomen and great omentum; adhesions on right side extending well back over right kidney and uniting the cyst to parietes of abdomen,

¹ The author being compelled to reduce the paper to twenty-five minutes the report of cases is brief and imperfect.

² The homesick soldier has little stamina.

and to the suspensory ligament of the liver as it passes over lower margin up to gall-bladder. This adhesion was with difficulty severed and the oozing of blood from the points of adhesion high up necessitated our extending the incision some three inches above the umbilicus. The cyst-wall having been peeled off from the omentum, parietes and liver, the pedicle was secured with a ligature, seared so as to prevent any oozing of blood, and dropped back into abdominal cavity. This part of the operation lasted about forty minutes, but more than an hour was occupied in sponging the abdominal cavity perfectly dry. The wound was closed with silk sutures and the patient put to bed. Temperature, before the operation, 97° ; pulse 120. At 5 p.m. temperature reached $98\frac{1}{2}^{\circ}$, and pulse had fallen to 100. At 9 p.m. temperature had reached $100\frac{1}{2}^{\circ}$, pulse 106. No nourishment but hot water flavored with brandy.

Patient rested fairly until midnight, when an intense pain set in across her breast, which, I was informed, always followed the repeated tappings, and which I believed had much to do with the tension of the cyst and abdominal walls, caused by the extensive adhesions to the liver. This pain prevented her from resting in the latter part of the night, in spite of morphia hypodermically and a hot linseed poultice.

During the continuance of this pain, which lasted more or less up to 12 o'clock noon of the second day, the temperature arose to $100\frac{1}{2}^{\circ}$ and the pulse to 135; some gaseous distension of bowels was relieved by rectal tube; she then vomited a dark greenish fluid, followed by chilly sensations and rise of temperature to 102° . The vomiting continued at intervals during the after part of second day, and at 9 p.m. it had become black or nearly so. Morphia hypodermically aided by small doses of magnesia sulph. in hot water controlled the vomiting and she rested better than the previous night, and we were encouraged to believe that some circumscribed peritonitis had run its course or had been controlled by the morphia.

At 9 a.m., third day, the temperature again began to rise and pain returned in right side extending up to right shoulder. Vomiting, of dark coffee-ground substance, again begun and continued during the entire day. By 6 p.m. the pulse had reached 160 and temperature $102\frac{1}{2}^{\circ}$. Small doses

of calomel were then administered with one eighth grain of morphia hypodermically. The nurse persisted in giving them and to our surprise the vomiting stopped a second time, and pulse fell to 120 and the temperature to 101° .

The patient remained much in the same condition and for two days some hope of recovery was entertained, when, on the morning of the fifth day, she became delirious and during the entire day struggled in wild throwings of hands and feet, sinking from exhaustion at about 6 p.m.

In a letter from Dr. Graydon I find she had been tapped twelve times between April 29, 1879, and April, 1884. Dr. G. did wisely in tapping, as it was the only source of relief the patient would submit to; and further, he acted under eminent authority, but the authorities are changing now and are destined to still further change.

Was there a time when an operation would certainly have saved this life? I think so, and that was any time previous to this adhesion to the ligament and under surface of the liver.

Post-Mortem.—There was no fluid in the addomen, everything was as nice as could be expected. The inflammation which had been set up in the peritoneal covering of the liver had united a portion of the transverse colon to it, hence the pain and vomiting, disturbances of secretion, excitement and death. I doubt if specialism in abdominal surgery or the advantage of a private hospital would have put this case in the list to help our statistics up to those of the old world.

CASE II.

I was consulted by letter, November 25th, as to Mrs. M.; I learned that she had had an ovarian tumor removed in March before, and that she now has another.

From above date to December 20th I was not informed of her condition, when I received a letter from Dr. B., her physician, stating that tapping had become necessary as often as every ten days, and that immediately following the last use of the trocar there was an alarming hemorrhage from the rectum. The doctor informed me of such other facts as to convince me that the case admitted of no delay; I therefore set the day for operation.

On examination, in conference with the doctor, I learned that he had not passed the trocar into the tumor, and yet had

drawn away at different tapplings fluid that certainly came from a ruptured cyst.

The patient was placed under ether, and an incision some four inches in length made. On opening the peritoneum, the fluid, "precisely the same as that which the doctor had removed with the trocar," came out to the extent of a common wooden bucket half full. After the cavity had been freely sponged out, the tumor was found to be about the size of an adult skull, mostly made up of malignant growths, and yet containing three or more ruptured cysts, which had poured out their contents freely into the peritoneal cyst, necessitating the frequent tapping.

The left half of the pelvis was filled with a malignant mass, attached to seat of pedicle of former tumor, completely surrounding the rectum, and explaining the source of hemorrhage at last tapping.

The abdominal cavity was washed out twice with warm water and wiped dry, patient put in bed and given one-eighth grain of morphia hypodermically.

She came out from the anæsthetic, suffering little pain, but never completely reacting, and died in seven hours of the shock.

Was there some skilled operator who could have been successful with this case? Not with a mass of cancer involving the rectum.

Would the advantages of a private hospital have been the means of her recovery? She could not have been removed after Dr. B. saw her.

Was there a time when ovariectomy would have saved this precious life? For I never was so profoundly impressed with the heroism of a patient as I was with this young woman's, demanding a second opening of her abdomen that she might have another respite from death.

I answer, if there was such a time it was when the first tumor appeared, before Dr. B. saw her. (1)

1. Statement by Dr. Brittain to Dr. Parvin, taken from the *Phila. Med. News*:

Mrs. W. came under my care the last of January, 1883. She first noticed a lump on her left side about one year ago, and it steadily grew since that time; absence of menstrual flow since October. She was emaciated, feeble, pulse 120, temperature 101°, abdomen so greatly distended that she could not lie down. My diagnosis was ascites and an ovarian tumor. For the purpose of making her more comfortable, though I believed she could live but a short time, I performed

Under date of May 26, 1884, Dr. Brittain writes me:

"In answer to your letter, I would say that Mrs. W. was tapped three times before the first operation (every twenty days), and five times before the last (every ten days), and was tapped only when absolutely necessary."

Dr. B. acted wisely, and gave his patient temporary relief. Circumstances make this necessary, but this does not injure the principle I would enunciate that the favorable time for ovariectomy is *before the forces of death, plus the operation, are stronger than those of life*. You say that it was malignant! Death would be but a matter of a few days. I answer that fear of malignant degeneration is one of the strongest arguments in favor of these growths being removed as soon as detected above the pubes.

The name of Dr. Parvin is a sufficient guarantee that the first tumor was ably and conscientiously removed.

The local origin of cancer has many able supporters and few disputants.

Give me a pathology which says, *do something*, and do it while there is hope of cure.

CASE III.

(Reported by Dr. MAXWELL.)

C.B., single, 18 years of age, family history unknown. I first saw her January 28, 1884. I was called because it was supposed she was pregnant, not because of any *special* failure of health. I found her abdomen about the size of a woman's seven or eight months advanced in pregnancy. She had first noticed her enlarged condition only a month previously. Her general health was fair, but she had lost some flesh during the last few months, and her appetite was failing. The prominence of the tumor was mostly on the left side, somewhat irregular in shape, and incompressible.

When questioned in regard to pregnancy she persistently denied all carnal knowledge, and said that her menses had been

paracentesis abdominalis, and removed nearly two gallons of ascitic fluid. After this she could lie down but otherwise there was no improvement in her condition until the fifth day, when her appetite and strength were increased and she did very well for two weeks when the peritoneal cavity began to fill again. On the first of March, assisted by Dr. Trueblood, I tapped again, but first directly passed the trocar into the ovarian tumor."

regular since she first menstruated, which was at the age of 14 years.

Dr. Joseph Eastman was called in consultation, and, after a second examination, we both agreed that the tumor was of the left ovary.

We engaged a private room at the City Hospital, and after a week's acclimation and the giving of "tonics," Dr. Eastman, assisted by myself and other physicians, operated, on April 5, 1884, at 10 A. M.

The operation occupied one hour.

There were no adhesions, but the tumor was largely solid "multilocular," very friable or rotten.

The tumor weighed about twenty-five pounds. The pedicle was ligated, and the ends seared with hot iron, and dropped back into the abdominal cavity.

The cavity was made scrupulously clean and the wound closed with silk sutures.

Highest temperature was 100 $\frac{1}{3}$ °.

On the sixth day after the operation the stitches were removed, and on the twelfth day she sat up a while in a rocking chair.

Convalescence was uninterrupted. To-day (May 20) I saw her skipping along the sidewalk, and she was able to assist in the work about the house.

COMMENTS.

This tumor was already beginning to decay. It contained much solid material. A puncture or two with the trocar would have allowed fluid to escape into the abdomen, as the cyst wall was too rotten to contract and close the puncture.

CASE IV.

Mrs. S., age 43, farmer's wife, mother of two children, the youngest twenty years old.

Examined patient with Dr. Seller, Mt. Jackson, November 10, 1883. Found abdomen as large as at full term of utero-gestation. After a critical examination of all pertaining to the case, I diagnosed ovarian cyst, and cautiously broached to her the advantages of an early removal, stating that from the rapid growth, her health would now begin to decline.

She had hoped that it was dropsy, and that she could be tapped.

I firmly stated to her that tapping would trifle away the time for and the certainty of a successful operation, and before I left the house the day was set.

I operated November 17, 1883, with the assistance of Drs. Seller, Todd, Raymond, Long, and Button; patient under either,

made incision some three inches in length in linea alba, tapped major cyst with trocar, then drew it out of abdomen, and found a small cyst deep down in pelvis which was also reduced in size by puncturing and withdrawn.

Only one slight adhesion was found, this was of omentum, to the anterior surface of tumor. In my opinion this adhesion would have been much increased by tapping, or in any delay in the removal of the tumor. Weight of fluid and cyst some 35 pounds, wound and abdomen cleansed and united with silk sutures.

The operation was performed in an old cabin, prepared with fire and blankets so arranged that we kept the temperature of the room as we desired, the patient being well wrapped in blankets during operation. and put in hot blankets immediately after, there was little shock and patient did not complain of being cold or tired. Operation lasted forty minutes, ending about 1 p.m.

During afternoon of second day the temperature reached 101, and pulse came up to 90 then declined. By the fourth day at 7 p.m. the temperature 99 $\frac{1}{2}$, pulse 80 from this time forward there was uninterrupted convalescence. Stitches removed on eighth day, from some cause or other there was a slight amount of pus followed the withdrawal of one stitch which in my opinion could in connection with the reaction, account for the very slight elevation of temperature.

Here was a case where with a few tapings we would doubtless have had most extensive abdominal and pelvic adhesions, as the larger cyst was already forming adhesions to the omentum, and the pressure rapidly increasing would have aided to increase adhesion, the smaller cyst was firmly crowded into the pelvis, to be still more firmly pushed down, as large cyst increased in size. The patient did her own work at the end of six weeks, including the washing, and remains well to this time.

Admitting the advantages of a private hospital, I think Dr. Sutton makes a mistake in allowing us to infer that his last 7 cases recovered because of their being in a hospital. I remember a case operated on by Dr. Parvin in a cottage in the village of St. Paul, Ind. tumor and contents weighed 60 pounds adherent to omentum to the extent that its entire removal was necessary, adherent to intestine in a number of places, adherent to pelvis extensively,

sixteen ligatures were left in peritoneal cavity, ten or more ligatures passed by some process, into bladder, and were at different times discharged by urethra, loaded with the crystallized salts of the urine, I saw patient after the lapse of a year able to do her work. The who, the where, and the when, all as factors contributed to make this case a success. Dr. Dunlap tells us that sometimes all get well for a time, and then bad success follows and he can scarcely say why.

In determining the important question when to operate some of our text books are at fault. Goodell says; "When should the operation be performed? Not when the cyst has been first discovered; but when it has grown so large as to distend the belly, and when the woman has become thin and and her health has begun to fail. The reason for waiting are, that the woman would have lived longer should the operation turn out to be a fatal one; that, the abdominal wall having become thinner, the incision will be proportionally shorter and shallower; that the patient being now less full-blooded, both hemorrhage and inflammation will not be so likely to occur; and that the pressure and rubbing to which the peritoneum has been for some time subjected will make it less vulnerable, and therefore less likely to take on inflammatory action."

Edis quoting Wells, says; "So long as an ovarian tumor does not materially interfere with the appearance, prospects, or comfort of the patient; so long as no injurious pressure is exercised by it on organs of the pelvis, abdomen, and chest; so long as heart and lungs, digestive organs, kidneys, bladder, and rectum perform their functions without much disturbance; so long as there is no great emaciation, no very wearying pain, no distressing difficulty in locomotion; nor, so long as such injurious influences can be counteracted by ordinary medical care, the patient should be left to that care, undisturbed by any surgical treatment."—(*The Disease of Women*, Eds. pp. 322-3).

Having assisted Dr. Parvin in 16 ovariectomies before beginning to operate myself, and having seen this favorable time looked for, I must emphatically dissent from these opinions. General practitioners are not to blame for tapping and doing all in their power to defer operation in the light of such teaching. Contrast this with Keith, who has had such wonderful success, who refer-

ring to his success says; this increased safety will encourage medical men to recommend earlier operations, which certainly few of them now do, and then adds, that very large tumors and bad adhesions increase the mortality there can be no doubt. For the last seven years, he says, no death has occurred from non-adherent tumors. And the deaths that did occur, with one exception, were when the local difficulty prolonged the operation two hours or more.

Baker Brown urged early operation in order to avoid changes in the cyst and peritoneum, (this is what I plead for).

Emmet says, (p. 864) "Experience has already demonstrated that, with the antiseptic method, we are justified now in undertaking the removal of ovarian tumors at a much earlier stage of their growth. In the greater number of cases from a year to eighteen months can be gained: and many advantages may be claimed in favor of the operation as soon as the tumor rises out of the pelvis. When the tumor can be detected for the first time in the abdomen, as a rule its walls are thin, a single cyst is common, and it is then free from adhesion. Under such circumstances only a small incision is necessary in the abdominal wall, and if the peritoneum is not opened until the oozing has ceased, the sac can be withdrawn without any fluid entering the cavity. The assistant can place his hand on each side as the sac is drawn out, so as to bring the abdominal walls in contact, and thus prevent the entrance of blood while the sutures are being introduced. In such a case I have completed the operation without the introduction of a sponge into the peritoneal cavity."

With these advantages in connection with the antiseptic method, the rule, as to the best period in the growth of the tumor, for its removal, as Dr. Keith has stated, "ovariotomy is not the operation it was even two years ago."

COMMENTS.

1st. If our statistics are to approach those of Keith or Tait, we must not only educate doctors, but through them, the public, that surgical operations left as forlorn hopes, will always give results partaking more of the forlorn than the hope.

2nd. We must by free presentation of the best views of the day educate the general practitioners, and they the public, that the trocar is not to be plunged into every

abdomen that contains a fluid; nor for the purpose of differential diagnosis as between ascites and ovarian cyst. I deem it a most pernicious practice; more dangerous than an exploratory incision as with each recurring tapping the chances of extensive adhesion, with a low grade of inflammatory action in the cyst, are increased especially if it be multilocular.

3rd. Let some one competent in abdominal surgery be sent for, who can make the diagnosis, while the case can be classed with the two favorable ones I have reported; and before it belongs to the two where our labors to save were in vain.

4. I would condemn tapping as a delusive hope, which comforts while the day of grace passes rapidly by. If done at all, it should be done by the operator who is well informed as to the consequences, and does it for a definite purpose.

5. One reason, in my opinion, for the greater European success is the fact, that the repute of her operators and the smaller size of their territory, enables them to send cases to those who by experience and natural adaption can give the patient the best chance of life.

6. Wells, Keith, Tait and others, have, as I believe they do in this country, measurably cleared their country of these long-neglected cases, and they are now working on that class of cases with which we are successful. Those who visit Tait tell us he does not operate on large tumors. They would certainly grow with time.

In a recent conversation with Dr. Englemann, of St. Louis, these views are confirmed.

7. Ovariectomy is not now and never will be an operation to be undertaken by everybody. Dr. Sutton makes a good point in his paper when he says one ought to see the abdomen opened many times before he attempts to open it himself.

8. The thousand little points one picks up in assisting or doing operations, or conducting the after treatment, will always remain as lessons peculiar to each operator, which he can never impart to others, either by words, written or spoken, nor by appearances photographed.

The view of the interior of the abdomen after death, in a fatal case, will suggest more for the success of the next case than a week turning the leaves of books.

9. I doubt if we can often afford to trust the after treatment of our cases to others,

as some tack or turn promptly taken may turn the scale.

10th. I believe the general surgeon can be as successful as the obstetrician, but he must remember that this operation is the crowning glory of his art, and bring to bear the accumulated wisdom and experience of his life. The delicate adjustment requisite in hare-lip, the cool deliberate head needed in lithotomy are no disadvantage in ovariectomy.

11th. I have no more fear of the surgeon bringing contamination from wounds than the obstetrician who may be attending puerperal septicæmia. Of course neither would think of operating while compelled to expose himself to such contagion.

12th. To attain success in surgery, as in music or art, there must be a natural adaptation. The planning of a great battle requires little more than the arranging and execution in *all its endless* detail of an ovariectomy. The best operators frequently resolve to have something a little different next time. The fewest possible assistants, to get along with the work, the better, so that the operator can make it a personal matter to know wherewithal they have been *washed and clothed*.

The most recent views of Keith, Tait, Brown and Emmett, strongly urging early interference, should, both for the good of the patient, and the honor of surgery, be kept before the general practitioner of medicine. These men have, as *special surgeons*, done much to change the teaching on this subject in the past five years, not only by words but by work.

And, finally, the immortal Gross, who, with cadenced step, has crossed the entire field of *general* and *special* surgery, and with the pick-ax of his giant intellect lifted the great diamonds of surgical thought, enabled by the pre-eminence of his professional stature, elevating them to such a height that they have shone like the sunlight over the civilized world, urged before the Surgical Association, as the result of his long life of experience, the necessity for early interference in morbid growths.

I am of the opinion that the important questions of *where* to operate and *who* should operate, are here, as is frequently the case in other departments of surgery, of less importance than the question, *when to operate?*

Translations.

THE VALUE OF THE VARIOUS SO-CALLED ANTISEPTICS.—(By Miguel, *Pharm. Post*). The following table is the result of a long series of experiments made by the author with different drugs having antiseptic properties. His data will undoubtedly astonish many of the adherents of carbolic acid. The figures represent the weight in grammes that was required of the drug to prevent decomposition of one liter of neutralized chicken-broth:

Grammes.

Mercuris iodide,	0.025
Silver iodide,	0.030
Hydrogen hyperoxide,	0.050
Mercuriæ chloride,	0.070
Silver nitrate,	0.080
Osmic acid,	0.15
Chromic acid,	0.20
Chlorine,	0.25
Iodine,	0.25
Gold chloride,	0.25
Platinum chloride,	0.30
Bromine,	0.60
Iodoform,	0.60
Bromoform,	0.70
Copper chloride,	0.70
Chloroform,	0.80
Copper sulphate,	0.90
Salicylic acid,	1.00
Benzoic acid,	1.10
Cyanide potassium,	1.20
Picric acid,	1.30
Ammonium chloride,	1.40
Zinc chloride,	1.90
Thymol,	2.00
Natro benzene,	2.60
Sulphur,	2.00
Saltpeter,	2.00
Chloride sodium,	3.00
Phosphoric acid,	3.00
Carbolic acid,	3.00
Alum,	4.50
Tannin,	4.80
Arsenious acid,	6.00
Boric acid,	7.00
Methyl alcohol,	95.00
Naphthol is worthless as an antiseptic if entirely free from phenol.	
T.	

[The above table may possibly have a tendency to cause some individuals to investigate and study the more recent investigations of the value of antiseptics, for, if they want to set themselves up as authority in certain matters, it always sounds nicer if

they are familiar with the subject.]—*Translator.*

OVARIOTOMY IN A CHILD EIGHT YEARS OLD.—Duchamp (*Arch. de Tocologie*) a case of ovarian tumor in a child of eight years; the child was weakly and had never shown any signs of menstruation. The growth was almost in the median line, distending the abdominal walls; and it was round and smooth, showing some signs of fluctuation. It was movable and although a more positive diagnosis could not be made it was concluded to operate, since the growth caused the child considerable pain, and the probabilities were that there would not be any extensive adhesions if the operation was performed early. The operation was made under strictly antiseptic rules. The tumor was found to be cystic and attached to the left ovary.

The technic of the operation was that usually carried out and need not be repeated here.

The first dressing was removed after eight days. There had been no elevation of temperature and no suppuration. The deep sutures were removed on the eighth day and the superficial sutures on the eleventh. Two weeks after the operation the child left the bed and has since been healthy and has not complained at all. T.

MECHANICAL TREATMENT OF DETACHED RETINA.—Grossman reports a few cases of detachment of the retina where he applied a new method of treatment. His supposition was that the sub-retinal fluid was not alone to be removed, but the intra-ocular tension, which was lessened, should be restored to normal again in order to press the retina back into place. Leber has demonstrated on animals that innocuous bodies could be introduced into the vitreous without doing any harm. Grossmann operated as follows: He removed the sub-retinal fluid by means of a fine canula, which was introduced through the sclera from the opposite side into the protrusion. The canula was withdrawn until its point was well in the vitreous chamber, when five or six drops of a 75 per cent. solution of chloride of sodium was injected into this space. The instrument employed was similar to a hypodermic syringe. During the operation severe pains set in, but, aside from this, there was no reaction whatever. A compress bandage was ap-

plied and in the course of one to two weeks the retina had become perfectly adherent, but the restoration of the function of the retina was only in a degree successful, nevertheless quite satisfactory when comparing it with the results usually obtained after the disease has lasted for a considerable time.

TANGEMAN.

Abstracts.

OPHTHALMOLOGY, ETC.

[PREPARED BY DR. DAVID DEBECK.]

COMPARATIVE FREQUENCY OF EYE DISEASES IN THE WHITE AND COLORED RACES IN THE UNITED STATES.—Burnett, Washington, contributes (*Archives of Ophthalmology*, June, '84) an article on this subject. Interesting as this question is from a scientific and ethnographic standpoint, this essay is the first contribution to the subject. His statistics include only twenty-three hundred cases, of which about one-third were white and two-thirds were colored; and from this small number no final conclusions can be formulated with safety. Enough interesting relations and differences, however, are here indicated, to make this question well worthy of further and more extensive observation.

In lid troubles, blepharitis marginalis was more frequent among the whites (note in this connection, the relation as regards refraction, given below); while chalazion was about twice as frequent in the negro.

Conjunctival troubles as a whole are of about equal frequency; but those forms usually designated "*scrofulous*" are found in very much larger proportion in the negro. The most remarkable exemption, however, is as regards trachoma; where, in this table, the proportional share to the colored race should have been about eighty, not a single case was observed. This discrepancy is too great to be accidental. Papillary conjunctivitis was observed, but not true trachoma, with its unmistakable clinical picture. If this immunity can be established, the fact is extremely interesting; and will tend to direct us to a new standpoint as regards the nature, etiology and treatment of this important affection.

In diseases of the cornea, a disproportionately large number of all the varieties is found in the negro. This is to be ex-

pected in a race presenting so decidedly the condition we designate as "strumous."

Of iritis, the percentage among the negroes is twice that among the whites; the syphilitic form, however, not much, if any, greater. Cyclitis and choroiditis apparently not as frequent in the negro.

Refractive troubles were *observed* less frequently among the negroes; but we must not conclude too hastily that they do not exist in the same proportion. Hypermetropia is probably found in about equal extent in both races, but the asthenopia attendant upon this condition, and which brings them for examination, is not brought out in the negro to the same extent as in the whites of the same social status. It is certain, however, that myopia has not yet such a hold on the negro race. The whites had six times the percentage.

Strabismus convergens was comparatively very much rarer among the negroes. On the ground that strabismus is dependent on errors of refraction, this harmonizes with the observations above.

Glaucoma is very frequent among the negroes, more so, it would seem, than among the whites.

As regards operations the negro seems to offer as good a general prognosis as the whites; although apparently more liable to reactions on the part of the iris after extractions.

THEORIES OF COLOR-PERCEPTION.—Dr. Swan M. Burnett, of Washington, D.C., elaborately discusses in the July number of *The American Journal of Medical Sciences* the various theories of color-perception, and points out that none of them accounts in a consistent manner for all the phenomena of normal and abnormal color-vision, and that, moreover, there are certain objections on physical grounds which, with our present knowledge of molecular and wave-motion, are insurmountable. He advances a theory which he thinks meets the requirements of the case in the light of recently acquired knowledge. He holds that it is essential to do away with the idea of the retina as a differentiating organ, and that it should be looked upon simply as a receiving and transmitting structure which shall give up faithfully to the optic nerve the impressions made upon it by the waves of the luminiferous ether. These impressions are carried by the nerve to the brain and are there properly differentiated and

converted into sensations. He believes that by this means all the phenomena of color-perception and color-blindness can be explained in a natural and consistent manner, without the necessity of imagining new tissues for novel or unusual reactions of these tissues to light. Dr. Burnett considers the retina to be a substance whose ultimate structure is such as to allow it to respond at one and at the same time to a large number of etherpal vibrations; at least such a number as shall be represented by the clearly distinguishable colors of the spectrum.

His theory, Dr. Burnett holds, explains the phenomena of defects in color-perception, and receives support from biology and embryology.

DR. PANCOST, late professor of anatomy in Jefferson Medical College, died some years since, leaving, it is said, more than a million dollars. Did any of it go to endow a chair in Jefferson Medical College? If so we have not heard of it. Dr. S. D. Gross died leaving an estate, it is said, of over a quarter of a million dollars. All of his children are handsomely provided for irrespective of this. Did he will any of it to Jefferson Medical College? His leaving a hundred thousand dollars to endow a chair of Pathological Anatomy or of surgery in this college would have been tangible evidence that he believed in this school and was ready to do what he could to make it independent of students' fees. There are few men in the profession who could so well afford to contribute to the founding of a Gross Professorship, as Dr. Gross himself. A boom for the Gross Professorship would be more fitting if the estate had started it with a subscription of an hundred thousand dollars, or more. Dr. Gross was a great man, but he received during his life the greatest honors and rewards possible in his profession, and his works will give him perennial glory.—*Detroit Lancet.*

BORAX AND IODIDE OF POTASH FOR THE VOICE.—A piece of borax the size of a pea dissolved in the mouth some ten minutes before speaking or singing strengthens the voice. Five grains of potassium iodide taken in a warm solution before going to bed the previous night also helps the voice when an extra effort is required.—*Medical Herald.*

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Cincinnati, August 23, 1884.

The Week.

THE MISSISSIPPI VALLEY MEDICAL SOCIETY will meet in the city of Springfield, Ill., September 23, 24, 25 and 26, 1884. Reduced rates of fare have been secured over all through lines. Papers have been promised from every State in the "Valley."

F. L. MATTHEWS, *Ch. Com.*
G. W. BENTON, *Sec'y*, Springfield, Ill.
Mitchell, Ind.

CHOLERA AND THE MIGRATION OF BIRDS.
—A cable dispatch says; The fact that the swallows, which migrated from Marseilles at the outbreak of the pestilence, have not yet returned, and that there are no sparrows at all in the city, is adduced as evidence that the atmosphere is still vitiated. This migration of the birds has made a deep impression upon the public mind, and has led to a demand for a purification of the atmosphere by means of bonfires.—*Medical Record.*

PREVENTION OF ATTACKS OF CHOLERA.
Surgeon-General Cornish says: "It is within the experience of all, that an attack of cholera in the individual is often aborted by timely treatment. During an epidemic, what can be commoner than the following typical case? A man is suddenly seized with a feeling of oppression and sinking about the epigastrium, followed by two or

three frequent and copious watery evacuations, and, if there be no actual sickness, a feeling of nausea and faintness. Such attacks often occur in the early morning, the patient having gone to bed perfectly well, and slept soundly until the desire to relieve the bowels was felt. Besides these symptoms, there is generally a clammy skin, a weak pulse, and much nervous anxiety. Now, let a case of this nature be treated instantly, by some combination of opium with a diffusible stimulant (a full dose of chlorodyne and brandy is perhaps the best and simplest remedy to be found at hand), let him be put to bed, and have warmth applied to his feet and epigastrium, so as to favor sleep. In nine cases out of ten, when the patient falls asleep, the diarrhoea is checked; and when he awakes, he will feel quite easy and comfortable. In the tenth case, the remedy may fail and the disease progress until all the symptoms of aggravated cholera appear in their due order. What becomes of the *contagium* of cholera, supposing the disease to be due to an infective germ, when the early diarrhoea is checked?"—*Indian Med. Gazette.*

ILLUSTRATIVE of the value of jury trials, involving questions of which the jury are ignorant, Dr. Gundry (Reports of the Maryland State Board of Health) gives the following: Sixteen years ago, in a rich and intelligent county, a case was trial in which a huge distillery, with its attendant hogpens, was complained of by the neighbors as a nuisance. It was shown that both the adjacent air and stream were so contaminated as to make the people in a near village uncomfortable and in some cases a fever had been traced to it. Expert testimony showed the probable results of such a state of things. But the defence placed on the witness stand a respectable looking farmer, who was well-to-do. He testified that the nuisance complained of was not to be feared. He thought it really of an advantage. He said in proof of this that he owned a very bad smelling privy himself. The odor from which was terrible, but it sufficed to cure attacks of the headache to which he was subject. The cure was accomplished by placing his face over the seat, and holding it there. The man was honest, and in ordinary things intelligent. His so called practical knowledge outweighed the positive testimony

of the other side and the theory of the experts. The jury found for the defendants. A couple of years later the neighborhood was scourged by an epidemic of fever.—*Detroit Lancet.*

REMINISCENCES OF THE CHOLERA EPIDEMIC OF 1832.—As we are having reports that the Asiatic cholera now prevails in France, and judging from former experience that it will probably visit this country before another year shall have passed away, it has occurred to me that some reminiscences of the disease as it prevailed here in 1832 may be interesting to those of our profession who have graduated since that time.

During the years 1830 and 1831 reports reached us that the disease was steadily advancing from Asia to Europe and across the country, and that it would doubtless reach America in the westward progress. We were informed, too, of its great fatality. yet it produced no great anxiety among physicians here, and none at all apparently, among the people of our cities until it actually appeared in Canada. About the 1st of June, 1832, a Dutch ship arrived at Quebec, and on the 8th the disease appeared among the crew. It spread over the city with great rapidity, proving fatal to about two-thirds of all who were attacked. In two days (the 10th of June,) it reached Montreal distant one hundred and eighty miles. Here, as in Quebec, it spread rapidly, the deaths in three or four days being from 100 to 150 daily, though the population was only 25,000. The excitement in our cities became intense. In Philadelphia a meeting of physicians was called to take the subject under consideration, which resulted in the appointment of a committee of three or more to visit Quebec and Montreal to see the sick and confer with physicians there in relation to treatment. Professor Samuel Jackson, of the University of Pennsylvania, Dr. D. Francis Condie, and others, whom I have forgotten, composed the commission. While they are away on their mission of mercy, we will follow the disease as spread from city to city and throughout the country. From Montreal it passed rapidly along the river to the towns bordering it,—to Lake Ontario, thence to Lake Erie, on to Detroit, then by Lake Superior to the Mississippi and Missouri Rivers, seeming

to prefer this great watercourse, though striking small towns and country places on either side along its borders many miles from its shores. The disease as it reached us, however, does not seem to come from that direction.

It first showed itself in New York on June 24, and twelve days afterwards, in that city of 200,000 people, the daily mortality had not reached 20. The marked difference between its mortality there and in Montreal was doubtless owing to the thorough cleansing the former city underwent after the appearance of the disease at Quebec, and to the universal avoidance of all supposed exciting causes.

It did not occur in Albany at that time, the great half-way house between Montreal and New York, until five or six days after its appearance at the latter place.

Of its appearance in Philadelphia and in our country I have in my diary, from which much of the above has been condensed, the following.

"July 20.—The disease appeared in Philadelphia on the fifth of July, in a man named Musgrave, on Filbert Street, near Schuylkill Third Street [now Twentieth St.] and a few days later two men in a house on Coates Street [now Fairmount Avenue] were attacked.

"In Quebec and Montreal the disease is subsiding rapidly, for the *Montreal Gazette* of July 7th says; "The disease may now, after being with us thirty-eight days, be said to have left us, the deaths yesterday from cholera being but seven,—not an unusual number for this season of the year."

"July 21.—During last week several cases occurred in New Jersey at great distances from each other. In one family of five persons, in a country place, four of them died in a few hours. (Newspaper report).

"July 22.—Last Friday, 20th, there were 213 cases in New York, and 100 deaths. The disease has increased rapidly there during the past four days.

"It is supposed that one-third of the inhabitants of the city have already left it for the country.

"Three hundred women of the town came from there to Philadelphia in the steamboat yesterday, and between two and three hundred a few days ago. (Fortunate Philadelphia).

"Nearly all the small towns on the main

route from New York to Philadelphia have been attacked during the past week.

Readers of the *Times* must bear in mind that, at the time of which I speak, the communications between New York and Philadelphia was by one daily stage across New Jersey. It was often several days after events occurred there before we heard of them here: so my account of the progress made by the cholera there could not be recorded day by day, but it is, so far as it goes, mainly correct, and, as it may be interesting to know how rapidly and regularly it reached its height and declined, I give the following tables as they appear at that time in the Health Reports of the two cities. In New York, up to July 22, 1,600 persons had suffered from the cholera, 700 of whom had died.

July 23,	New Cases,	231;	Deaths,	73
" 24,	" "	296	" "	96
" 25,	" "	157	" "	61
" 26,	" "	141	" "	55
" 27,	" "	122	" "	46
" 28,	" "	145	" "	68
" 29,	" "	122	" "	38
" 30,	" "	103	" "	38
" 31,	" "	121	" "	40
Aug. 1,	" "	92	" "	41
" 2,	" "	81	" "	34
" 3,	" "	90	" "	24
" 4,	" "	38	" "	30
" 5,	" "	96	" "	29
" 6,	" "	101	" "	37
" 7,	" "	89	" "	32
" 8,	" "	82	" "	22
" 9,	" "	73	" "	28
" 10,	" "	97	" "	26
" 11,	" "	76	" "	33
" 12,	" "	67	" "	23
" 13,	" "	107	" "	23

This account, to the 13th of August, gives the number of seizures in New York as 4,348 with 2,756 deaths. The complete account, made after the disease had passed away, gave the seizures as 5,381 with 2,117 deaths during its continuance there.

Philadelphia fared still better than either of the cities yet named. Although the first case was on July 5th yet until the 15th there was but five or six cases reported by the Board of Health, and from that time no report of any till the 28th of July, when they occurred as follows:

July 29,	New Cases,	6;	Deaths,	1
" 30,	" "	15	" "	7
" 31,	" "	19	" "	9
Aug. 1,	" "	20	" "	9

Aug. 2,	New Cases,	40	Deaths,	15
" 3,	" "	35	" "	14
" 4,	" "	47	" "	13
" 5,	" "	125	" "	43
" 6,	" "	176	" "	74
" 7,	" "	137	" "	73
" 8,	" "	114	" "	46
" 9,	" "	154	" "	58
" 10,	" "	142	" "	39
" 11,	" "	126	" "	33
" 12,	" "	110	" "	31
" 13,	" "	130	" "	49

My record ends with this date, and I give it here merely to show how it increased and diminished. Dr. Jackson, in his paper, made, after ample time had elapsed for an accurate account gives the population as 160,000, the seizures as 2,314, deaths, 935. The cases were found in nearly every part of the city. I have already spoken of the first case: the second and third were remote from it, in the Northern Liberties, on July 9th; in a few days, two more, near the last; then one in Kensington, two miles from the first case; then a few scattered cases, until the 27th and 28th of July, when the epidemic swept over the city in full force.

In private practice there were 1,175 cases, with 270 deaths; in hospital 874 cases and 342 deaths; in the old Alms-house, 172 cases and 92 deaths; in Arch Street Prison, 86 cases and 32 deaths.

Southwark and Northern Liberties, the suburbs nearly equidistant from Market Street, suffered nearly the same, while the city proper (not counting the old Alms-house and Arch Street Prison) was not so severely afflicted. In the first few cases which occurred, no communication could be traced to infected persons or districts.

The following table, taken from Dr. Jackson's report (page 292 of the *American Journal of the Medical Sciences*, February, 1883), may be interesting:

	Population.	Cases.	Deaths.
Quebec,	32,000	5,783	2,118
Montreal,	28,000	4,420	1,904
New York,	140,000	5,814	2,935
Philadelphia,	160,000	2,314	935

By the time the Philadelphia Board of Health made its second report (July 28), the whole country was excited, and, as the bowel-affections incident to the season were evidently of a more active and severe kind than usual, we of the country were on the lookout for the dreaded visitant. In all the cities named, before the real Asiatic

cholera occurred, there was a general prevalence of bowel-affections, from which comparatively few escaped. It was not uncommon to have, in addition to the diarrhoea, cramps and a sense of fatigue and tension in the calves of the legs.

During this time it was evident that we were here at my home, (fourteen miles from the centre of the city), feeling the approaches of the disease. On July 19, I had two severe cases of what I called cholera morbus,—fair specimens of cholerae, as given by Professor Jackson; they were violent cases, attended by cramps of the legs in addition to the common symptoms; and, though we knew nothing of germs and germicides, had not heard of Pasteur or Koch, were ignorant of heart-clots, embolism, and septicæmia, they were all speedily cured by the use of calomel, and opium and camphor, aided by external irritants and fomentations, in some cases preceded by venesection. Lest my readers should be disgusted by the mere mention of this last-named means of cure, I will say more about it before I finish.

The situation was becoming serious. Exaggerated reports of its progress and fatality was passed from mouth to mouth, and doctors were appealed to for advice and encouragement. At that time, even here, on the very borders of Philadelphia County, physicians were far apart. Each one of us had a large area of country, in which almost every family depended upon his knowledge, skill, and faithfulness to duty. Much as we had desired and sought information in relation to the disease and its treatment during the two years in which its coming was heralded, we had learned but little concerning it. As the Commission had returned from Canada, and two of the most eminent physicians of Philadelphia—Dr. Joseph Parrish and Professor Samuel Jackson, of the University of Pennsylvania—had established hospitals for the reception of patients, and as the cases coming to me almost daily gave evidence that we were in the range of the epidemic's influence, it seemed my duty to go to Philadelphia and see what treatment was in vogue there: so on the 31st of July a visit was made to the hospital of Dr. Parrish. His room was in Church Alley, between Front and Second and Arch and Market Streets. His son, Dr. Isaac Parrish, told me that they had begun a few days before with the cooling treatment,—washing the

body with cold spirits, and giving iced water to allay the insufferable demand for cold drinks. But, as the patients had been brought in from the streets when far advanced, all their remedies had been in several cases of no avail. The two patients then before us were in a hopeless condition. They had been in there only since the night before. I had seen men exceedingly ill with cholera morbus, but had no conception before of one in the deep collapse of Asiatic cholera. There they lay, cold and clammy all over the body, eyes sunken, pulseless, voice sunk to a whisper, body wasted and shrunken to a frightful degree, and, the lips of a blue tinge.

Dr. Jackson had pursued an opposite course,—had stimulated his patients and externally had used hot vapor steam-baths.

He had been as unsuccessful as Dr. Parrish. Both of these eminent men soon fell back on their previous knowledge of the action of medicines and their experience in the treatment of the affections of the bowels, especially cholera morbus, which has so close kinship with Asiatic cholera, and were afterwards very successful.

Having thus traced it from city to city, or rather its appearance at various places, for thus far it does not appear to have been introduced by any means which a strict quarantine could have prevented, let us see in what way it spread to country places. No words of mine can give an adequate idea of the panic which prevailed at that time in city and country. People fled from the city as best they could,—by the few stages which then passed to and fro from country towns, by boats which did the carrying-trade on the Schuylkill and Delaware Rivers, and by wagons of farmers returning from market. When in Philadelphia, no one had spoken to me with confidence in any plan of treatment, and I returned to my home with a feeling of great responsibility and a deep conviction that I was poorly qualified for the earnest duties likely to come before me. On the 4th of August a severe case of cholera morbus occurred in a woman 60 years of age; and on the 5th, one of Asiatic cholera, I called it that, because of the profuse discharges of rice-water, the vomiting and cramps of body and limbs, corrugated skin, and cold, clammy surface. The same day I had another case, one mile from the former, in a woman who had not been from her home for some time, but

they were all within a mile of the river. August 7, was called to see a group of Irishmen engaged in digging a canal at Conshohocken, at a place where there were then only a few houses for laboring men, besides the farm-house and barn of Mr. Harry. In this barn I found several men in a sad condition. One was dying, some were drunk, and some evidently quite sick, as well as under the influence of liquor. I attended pretty faithfully to them for a few days, but, as there was no nurse, and as the thirst of the sick was so great as to cause them to take water every few minutes, to be vomited as soon as taken, my ministrations did no good. One day when I arrived, a dying man told me that when he would ask for water one drunken fellow would dash it on him from a bucket. Three of them died in a few days, and I prevailed on the others to go away. They seemed to be well, but were drinking very much of whiskey. The next day they were all away. Whether I did right in advising them to separate has been to me, ever since an unsolved problem. The next day or so Dr. Roger Davis, who lived in a very out-of-the-way place, five miles from Norristown, found a sick man on his piazza early in the morning. He wanted medicine but had waited several hours for the doctor to get up, and by that time was so ill that he could not travel further. Dr. Davis made him as comfortable as he could in the barn, but he died in twenty-four hours. Next day Dr. Davis, was sick; and died a few hours afterwards. The man who had died there reported that he had come from Conshohocken. If it came to Dr. Davis from that man, it would favor the belief in a peculiar poison—germ, shall I call it?—which acts very quickly. From this time August 12, until September 22, it spread over the region in which I practiced, giving me twenty-eight more cases, all of whom recovered but two, of whom I will give brief accounts.

N. Leonard, between 40 and 50 years of age, a vigorous man, in good health, living opposite Conshohocken, close to the side of the river, was troubled with diarrhoea and occasional vomiting from the early morning of August 11 (only four days from my first visit to the sick men in the barn, a quarter of a mile away, on the opposite side of the river) until 4 p.m., but he had not kept in the house, nor had he felt that it was a serious illness until at the hour

named, when the cramps appeared. At seven o'clock, when I saw him, he was still sitting up, though having cramps, and very often vomiting and purging of that peculiar fluid since known everywhere as "rice-water discharges;" pulse was small, frequent, his voice becoming husky, and his skin perspiring profusely. I attempted to give him my cholera morbus treatment,—salt-water emetic, camphor and opium, calomel, and, externally, frictions and warmth; cold drinks, and ice in small lumps. Here I ought to say that after Dr. Jackson's failure with the hot vapor, and which failed with others also in their small hospitals, he had hollow tin vessels made to fit the thighs, legs, arms, and body, which being filled with hot water were applied. I used these on my poor patient, to check, if possible, his profuse cold perspiration. My efforts for hours were of no avail. I sent miles away for an old physician, who, on being told of the ailment, would not come; then for my brother, Dr. William Corson, of Norristown, with only a year's practice. He came at midnight. All my efforts had been of no avail. Medicine taken by the mouth was quickly rejected, the watery discharges so copious that the bed was thoroughly soaked and they ran through it to the floor. To those who have never seen such a case, a truthful statement of the amount would be deemed incredible. I speak of it as gallons. Dr. Jackson said he had seen bucketfuls discharged in a few hours from the bowels alone. It was then midnight; the pulse was barely perceptible, the voice had sunk to a whisper, the skin was wet, and cold as the body of the dead, but the mind clear. In this case, as in others in collapse which I saw later, there seemed to be no anxiety about the result, no fear or care about it, save to have relief from cramps. The suffering was fearful; though all we could do we did. Frictions, and the tourniquet to the limbs, were somewhat relieving to the cramps there; but for those in the muscles of the chest and belly—great hard balls, which caused faint cries of agony—we could do nothing. We stood by him hour after hour, and when the morning dawned the night and the patient passed away together. How helpless we had been to relieve! how confused and uncertain as to the proper course to pursue!—the patient in fearful agony from cramps of the muscles of the legs, the belly, and the

chest, his skin cold as the dead, even his tongue cold, and yet oppressed with a sense of heat all over his body, and crying for water! water! With the clinical thermometer to determine the temperature, and the hypodermic syringe to put anodynes where they would certainly exert their power, we could now have no excuse for allowing a patient's last hour's to be so agonizing.

From that time cases followed each other rapidly until the 6th of September, when one, also speedily fatal, occurred, which was so like the one already given that I would not refer to it, save to show the exciting cause:

Samuel Summers, a strong young man, accustomed to work for the farmers, after working all day September 5, went to a "watermelon party," and stayed till midnight, dancing occasionally; next morning was at work at sunrise, as was then the custom. When called to breakfast at seven o'clock, he felt sick, and did not go. In a short time—even before his fellow-workmen finished eating—he went home, a distance of only one-eighth of a mile, vomited, had much pain, and copious thin discharges from the bowels. He was several miles from me, so that I did not see him till 10 a.m. Found him then, only two hours after his first feeling pain and nausea, having copious rice-water discharges, much sickness of stomach, vomiting, and strong cramps of the limbs, pulse small, perspiring greatly. He was already passing into collapse. Although I called two other physicians to aid me, one of whom was a man of long practice, it was all to no purpose. I did not leave him till he died, at 10 p.m.

It was just such imprudence as this—indulgence in watermelons, and loss of a night's sleep—that brought on many cases. There had been no case in that region before his, and the people there had not been greatly alarmed. All my cases, except those above named, thirty in number, got well, but they had not passed beyond the second stage; many of them had severe vomiting, profuse purging, and cramps of the legs, but they were vigorous, fearful of death—a most encouraging sign to me,—and could bear venesection if deemed necessary. If the pulse was yet unaffected and cramps present, I resorted to it, then gave "Dr. Parrish's Camphor Mixture," or camphor and laudanum, with ice or iced

water to allay the fearful thirst; also used mustard externally, or, where the surface was cold, with clammy and shrivelled skin, hot water was used in the tin vessels as recommended by Dr. Jackson. Calomel was given in many cases, for no other reason, I suppose, than that it was believed to be efficient in causing a flow of bile, and that the presence of bile in the stools was regarded as a favorable indication.

Though all whom I attended got well, save those named, I feel that one more experienced in the treatment of disease than I then was might possibly have saved both Leonard and Summers, for Dr. Jackson reports cases which were in a seemingly worse condition when he was called, some of whom recovered, though his means of cure were the same as mine.

Let us hope that the lapse of fifty-two years has given us better means of relief if we should be again called on to confront the disease. Though Drs. Parrish, Jackson, and their followers differed greatly from Dr. Hodge and some others about the pathology of the affection, their treatment was nearly the same. Listening to the crude theories which were sent forth by persons who had never seen a case, but who fancied that it was something pathologically different from any disease they had ever seen before, and acting on these theories, the first few cases were fatal in almost every hospital; but when, more familiar with it, they attended to the symptoms and applied their successful experience for their relief, all of them proved to be fairly fortunate in saving lives. The fatality in Philadelphia was one death to two and a half persons attacked, while in New York it was one to two.

In a subsequent communication I propose to refer particularly to the various methods of treatment then employed,—the use of calomel, venesection, leeches, emetics,—at first so popular,—cathartics, hot vapor-baths, dry heat, ice externally and internally, which were approved by the experience of leading physicians who were engaged in active practice at the time this epidemic under consideration prevailed in Philadelphia.—Hiram Corson, M.D., Conshohocken, Pa., in the *Philadelphia Medical Times*.

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Selections.

MEDICINE.

TREATMENT OF PORRIGO DECALVANS (ALOPECIA AREATA).—In *L'Union Médicale*, January 5, 1884, we find an article by Dr. Ladreit Lacharrière, Physician-in-Chief to the Deaf and Dumb Asylum in Paris, describing his clinical experience with croton tiglium in above-named affection. In order to prevent the croton oil, when applied to the scalp, from spreading over too large a surface, whereby its action is much weakened, if not altogether lost, he conceived the idea of combining it, in the proportion of one-half, with cocoa-butter and virgin wax, the resulting mass being then moulded into sticks, such as are manufactured for cosmetic purposes. These sticks are wrapped in lead foil, which both serves as a preservative, and renders them more convenient to handle. By their use, M. de Lacharrière is enabled to prevent the action of the croton tiglium from extending over a space of more than five centimetres square, thus obviating all risk of exciting those inflammatory symptoms which have been complained of by other physicians who have experimented with the remedy. When the entire scalp is affected, he marks it off in several regions, which are treated in succession.

Previous to the application, the hair of the affected parts must be cut as closely as possible; when the state of the scalp will permit, it had better be shaved. Then the diseased surface, after being subjected to friction for a few moments, is covered with a thick layer of the croton pomade, over which, to protect it from the air, is placed a linen cloth, secured by a head-band of silk. Next day, an inflammation is visible, quite active, but confined within the limits of the application, and characterized by the formation of a yellowish crust, resembling that of pemphigus. A few emollient poultices will moderate this symptom, and hasten the detachment of the crusts, which, on examination, are found to contain a great number of spores. In this way, all the morbid elements are often removed at once. Redness and swelling of the scalp are relieved by the use of almond oil or of glycerine. After this, should any remaining germs of the disease be detected,* by the microscope or otherwise, repeat the first application.

One hundred and fifty patients, the record of whose names and addresses is open to public inspection, were treated for porrigo decalvans by this method at M. de Lacharrière's clinic. Of these, twenty-five failed to report themselves, but were probably cured. The remaining one hundred and twenty-five were ascertained to be thoroughly rid of the complaint within periods of time varying as follows: One month, 11; one and one-half months, 43; two months, 16; two and one-half months, 14; three months, 16; three and one-half months, 3; four months, 9; four and one-half months, 1; five months, 2; six months, 4; seven months, 4; nine months, 9; fourteen months, 1 (in this last case there were several relapses).

The average length of treatment required it would be difficult to compute on the basis of this report, owing to a marked difference between the recent cases and such as were more advanced. In the former, where the microphyte had not penetrated far into the derma, a single application for each of the patches was sufficient; in the latter, though perhaps more circumscribed in extent, it had to be repeated two or three times, at intervals of ten or twelve days, thus greatly prolonging the period of attendance. M. de Lacharrière, however, entertains not the slightest doubt as to the great superiority, in every respect, of his croton tigilium treatment over both epilation and the use of any other antiparasitical remedy. He maintains, at the same time, that, to insure the best results, it must be carried out with a degree of care which is not likely to be bestowed upon it in a great public institution such as the St. Louis Hospital, where its trial would seem to have been attended with only a partial measure of success. — *Journal of Cutaneous and Venereal Diseases.*

NITRITE OF AMYL.—C. J. Fox, M.D., Willimantic, Conn., contributes the following to the *New England Med. Monthly*:

Permit me to offer the following therapeutic observations on the *modus operandi* of the nitrite of amyl, which has proved itself to be in my experience a valuable agent in a certain class of affections which the general practitioner is very apt to be called upon to treat in his daily routine of professional duties. The highly valuable researches by various investigators have called the particular attention of the pro-

fession to its therapeutic value and fully demonstrated the true physiological action of the nitrite of amyl.

In angina pectoris I have seen almost specific power from the use of the drug. In most cases of true angina pectoris there is organic disease of the walls or of the valves or of the coronary vessels of the heart, and it seems highly probable that the pain in this affection is unquestionably due to these organic changes in the heart itself, than that it is a secondary result of a peripheral arterial contraction occurring without obvious exciting cause. My own explanation of the relationship between the pain of true angina pectoris and the arterial contraction is that the high arterial tension is a secondary reflex action and not the primary cause of the cardiac agony, and in addition to the centripetal nervous influence which produces the pain, there is an influence reflected from the nervous centre through the vaso-motor nerves, and thus exciting a more or less general contraction of the arterioles. It is very probable that the peripheral arterial resistance, although not the primary or the main cause of the pain, yet adds to the distress and the danger of the paroxysm.

The manner in which the nitrite of amyl affords the desired relief which it often does is not without practical utility, more especially as a guide in the selection of cases which are suitable for the employment of the drug. I generally commence by giving an inhalation of three drops on a handkerchief to the nose and then to gradually increase *pro re nata* as soon as the face flushes or the heart becomes excited, then a short intermission between several minutes should be observed, for during that time the effects always increase, even if no more be inhaled. The result of my first trial of three drops in a case was truly wonderful. The patient was in a very severe paroxysm, and as soon as the inhalation was tried it was aborted (so to speak) in about two minutes, whereas heretofore under other remedies the length of time was about twenty minutes; and after a time the frequency of the paroxysms was notably diminished, and under these improved circumstances finally ceased. The flushing of the face forbids the conclusion that the cause of the cardiac distress was due to a general contraction of the arterioles, and that the relief was due to relaxation of the arterioles.

I have also used it in connection with relieving neuralgic pains, which it does very rapidly.

A case a few weeks ago of severe facial neuralgia, which had resisted various remedies, came under my professional observation. I gave her five drops of the amyl on a handkerchief, and in a few minutes the pain was completely relieved. In a few hours it returned, although in a milder form, which was again effectually removed by the inhalation of the amyl, and, after several repetitions of the dose, the cure was complete. I have also used it in similar doses by inhalation with immediate results in asthma, in spasmodic dysmenorrhoea, and also in epileptic paroxysms, where there is a marked epileptic stasis, and where the patient passes from one convulsion into another. In hysteria convulsions it acts to a charm; in fact, the drug itself seems to act with specific power in these classes of cases.

THE SEPTIC PNEUMONIA OF NEW-BORN CHILDREN.—Silberman (*Deutsch. Archiv f. Klin. Medic.* and *La Presse Méd. Belge*) gives the following conclusions:

1. The septic pneumonia of new-born and young children is closely associated with tracheobronchitis and should be regarded as a catarrhal pneumonia, or as a pneumonia from the introduction of foreign substances.

2. It is produced by the aspiration of the putrid amniotic liquid or the putrid genital secretion, or by the aspiration of air strongly charged with septic matter coming from the mother.

3. The disease is often complicated with affections of the pleura, but rarely with affections of the other organs.

4. The alveoli and the bronchi of children who have died with septic pneumonia are filled with numerous bacteria.

5. The blood of these children shows a remarkable abundance of leucocytes and a diminution or marked dissolution of the red blood globules.

6. Icterus is not a constant accompaniment to septic pneumonia.

7. Septic pneumonia shows itself in one to two days after birth.

8. A fatal termination is inevitable, in most of the cases it occurs on the third to the fourth day of the disease.

9. The rapid penetration of septic substances into the lungs of new-born children,

is favored by the incomplete closure of the glottis and by the shortness of the principal bronchus.

10. The great diffusion of the septic process in the lungs is favored by the metamorphosis of the epithelium and by the slight expiration of the newly-born, owing to the feebleness of their respiratory muscles.—*Journal of Am. Medical Association.*

TO RELIEVE PAIN IN THE SIDE IN PHTHISIS.—M. Rigaud discusses in the *Journal de Therapeutique* the various means for the relief of the pleuritic pains which are so often the cause of severe suffering in consumption. These pains (*point de côté*) are considered as they occur in the later stages of the disease, when they are due to the inflammation caused by the presence of a superficial cavity. They are aggravated by motions of the thorax. The treatment which M. Rigaud recommends for their relief is the application of collodion. After washing and drying the part, a succession of layers of this substance is applied to it by means of a hair brush, until a kind of cuirass is formed, which offers sufficient resistance not to split during movements of the thorax. If a fissure does occur it must be immediately repaired, and if the pain does not disappear the procedure must be repeated. In most cases almost immediate relief is obtained. While the mechanical action of the collodion is unquestionably of great value, even as the strapping of the chest in pneumonia relieves the "stitch" by giving rest to the part in which it occurs, the benefit is, in our opinion, enhanced by the application of a counter-irritant. As such counter-irritant there is no agent more efficacious, in our experience, than tincture of iodine. There would seem to be no objection to applying this first, and after its physiological action has been secured applying over it a coat of collodion. These means of securing euthanasia will not be deemed unworthy of careful consideration by the conscientious physician.—*Medical Bulletin.*

SEPTICÆMIA IN A CHILD FROM PUERPERAL INFECTION.—The *Allgem. Wien Med. Zeit.* of April 20, contains the clinical history of a child 5 days old, who died of septicæmia induced by puerperal infection from the mother. The labor had been protracted, the breech presenting, and there was history of fecal vomiting for three

days. The color of the skin was a dirty, greyish yellow, and the child was admitted into the hospital in a state of collapse, with sunken eyes and depressed fontanelles. Several bloody stools were passed after admission, and death supervened in a condition of coma. Capillary apoplexies were found in the brain and in the choroid plexus, hemorrhagic patches in the mucous membrane of the stomach, and large hemorrhagic patches in the kidneys. The intestines were in a state of extreme contraction, the small intestine being scarcely as thick as a crow quill, and the large about the thickness of an ordinary pen handle.—*London Med. Record.*

PERMANENT PILLS OF PERMANGANATE OF POTASSIUM.—According to a correspondent of the *Deutsche Med. Zeitung*, a Russian pharmacist has hit upon an expedient for preventing the change which the permanganate is prone to undergo when made into pills. The formula is as follows:

R. Vaseline, 2 parts.
 Paraffin,
 White wax, each, 1 part.
 White bole, 3 parts.

The vaseline, the paraffin, and the wax are to be melted together, and when the mixture is cold, the bole is to be added. The permanganate of potassium is to be reduced to a fine powder in another mortar, and then added to the mass. The pill-machine used should be of horn or of wood.—*Med. and Surg. Reporter.*

TOTAL RETENTION OF THE PLACENTA. The retention of a part or the whole of the placenta is a cause of grave trouble, both by causing hemorrhage and by the absorption of decomposing materials. One must not, however, regard a woman as necessarily lost if the placenta be entirely retained. J. Favé reports a case to which he was called, seven hours after labor had terminated, in order to deliver the placenta. He found the uterus displaced, and every attempt to reach the placenta failed; on account of the feebleness of the woman he did not resort to instruments. Coffee and quinine were given for four days. The woman recovered, and became pregnant six months afterwards. Favé thinks it probable that the placenta shrivelled and came away at a menstrual period.—*Journ. de Méd. de Paris.*

SURGERY.

ON THE TREATMENT OF CARBUNCLE BY COMPRESSION.—A lecture delivered in the Hospital of the University of Pennsylvania, by John Ashhurst, Jr. M.D., and published in the *Philadelphia Medical Times*.

This man has already been before some of my ward classes, but as there are many present to-day who do not meet me in the wards, I am glad to have the opportunity of bringing him before you. He presents one of the most instructive cases which we have had in the hospital this winter.

This patient was admitted to the hospital on Wednesday of last week, being ten days ago, with a very large carbuncle of three weeks' duration. It began as a pimple and gradually increased in size. This is the usual history of a carbuncle, first, the presence of a pimple, which soon develops a central vesicle, and then, either with or without irritation, such as scratching or pricking with a pin, begins to spread, the carbuncle in a week or ten days attaining its maximum size, seldom more than four or five inches in diameter. Yesterday a week ago, measuring the carbuncle, we found its dimensions to be nine inches by eight, independently of the large amount of indurated tissue around the livid mass itself. The dimensions of this carbuncle, including this indurated tissue, were at least eleven by ten inches, and it was fully three inches deep.

A carbuncle is really nothing but a large boil, there is really no absolute distinction between a carbuncle and a furuncle. This carbuncle is now smaller than it was when the patient first came to the hospital, and it is subsiding every day, though up to the time of the patient's admission it had been steadily increasing in size.

There are some peculiarities about the ulceration of a carbuncle which have not been understood until quite recently. It had long been observed that carbuncles were apt to ulcerate at numerous distinct points, giving the surface a sieve-like or cribriform appearance, but the anatomical explanation of this condition has only been furnished within a few years by an American physician, Dr. Collins Warren, of Boston. By microscopical examination of the skin of the back, where carbuncles usually occur, Dr. Warren has found little processes or tubes of fat connecting the deeper tissues with the surface; he has named these

tubes the fatty columns or columnæ adiposæ, and it is along these columns that the pus of the carbuncle, which originates in a phlegmon of the deep cellular tissue begins to make its way to the surface. In this case there are but two openings, which lie close together, and probably will soon coalesce. A slough—what is popularly termed the core—is beginning to protrude through one of these openings; it is a slough of the deep cellular tissue.

Carbuncle, while a very painful and annoying affection, is usually not a very dangerous one when properly treated. Death does, however, occasionally follow, and I have recently seen the statistics published by a German surgeon who treated eleven cases of carbuncle by incision, six of these proving fatal by pyæmia. I have myself seen no deaths from carbuncle, nor do I recall any in the practice of other surgeons, unless in cases where there was some grave constitutional complication.

Carbuncle in one part of the body, the face, is considered particularly dangerous. It is said that but one case in nine gets well, but my own observation would lead me to think this an exaggerated estimate. This is a comparatively rare form of the disease, but I have seen two or three cases of facial carbuncle, all of which have ended favorably; it is true, however, that none of them were very severe. Death in facial carbuncle results from transference of the inflammation to the sinuses of the dura mater or from pyæmia. But in ordinary carbuncle, unless the patient has Bright's disease or diabetes (an affection which predisposes to carbuncle), or unless the inflamed mass is so situated as to endanger internal organs—peritonitis may follow abdominal carbuncle—death will seldom ensue, except as a result of injudicious treatment.

The old fashioned treatment, which in my student days we were taught should be used in every case, was to make an incision the entire length and depth of the carbuncle, this incision being crossed by another at right angles to it, and extending the same breadth and depth. Had this mode of treatment been practiced in the case before you, we would have had two incisions, one eleven inches long and three inches deep, and the other the same depth and ten inches in length. You can see what an enormous wound would have been made and how much blood would of neces-

sity have been lost. Death even may occur from hemorrhage, for there is a recorded case in which a surgeon made the regulation incision in the afternoon, and directed the nurse to apply a poultice, saying he would see the patient in the morning. Next morning he went to see his patient and found that he had died from hemorrhage during the night. Then, besides this risk from bleeding, incisions increase the risk of absorption of poisonous matter, as they leave a very large raw surface. Another, though less serious objection is that the resulting wound is a very large one, and the time required for healing is consequently prolonged. In order to avoid hemorrhage some surgeons practice subcutaneous incision, but this is an uncertain operation, and presents no very particular advantage.

Of course the treatment by incision has something to be said in its favor. No course of treatment could have been in general use for so many years without being of some value. It somewhat diminishes the pain of the carbuncle, and sometimes seems to prevent its spread, but it is not always certain even that it will do this. The disadvantages of incision I consider much greater than its advantages.

There is another mode of treatment which is adopted either by itself or in connection with incision—the use of caustics. They are either employed to cause central sloughing, or are applied as “caustic arrows,” like the spokes of a wheel. The use of caustics in this way was introduced by Maisonneuve for the removal of tumors, and Sir James Simpson recommended the injection of caustic solutions in the same radiating manner. I can remember quite distinctly the case of an old man with carbuncle who was a patient in the Pennsylvania Hospital when I was a resident physician there. The usual crucial incisions had been made, causing great pain and free bleeding, and it was my duty every day to cauterize the wound with the solid stick of nitrate of silver, and I can remember how that old man used fairly to shiver with the pain at every dressing. He got well at last, but it was after many weeks of needless suffering.

The first case in which I used the pressure treatment, which I now invariably employ, was that of an old woman in the Episcopal hospital, who had a large carbuncle, and who was so old and feeble

that I thought it would be really dangerous to make incisions. Mr. O'Ferrall, an Irish surgeon, was the first to recommend this mode of treatment. He applied compression by means of a plaster made to cover the whole mass of the carbuncle, and when suppuration began he cut a central opening for the escape of the pus. I have preferred to use adhesive strips laid on concentrically, just as we use them in the treatment of swelled testicle.

We begin to apply the straps at the margin and gradually bring them inward, leaving a space in the centre for the slough to come out.

We began treatment in this case last Wednesday week, up to that time the carbuncle had been constantly increasing, but since then the progress has fortunately been the other way. The pain was immediately much relieved, so that now the patient has only an occasional darting pain, but nothing to really give him distress. The carbuncle is smaller and is getting flatter. It now measures eight by seven and a half inches, and is not more than two and a half inches deep. The patient has not lost a drachm of blood since he came into the hospital. You can see that the pus and sloughs of cellular tissue are slowly discharging themselves, and there is so far no sign of any additional opening. We have every reason for thinking that this patient will convalesce without any further trouble.

Over the centre of the carbuncle we are using a small poultice, which we will change after while for a dressing of resin cerate or zinc ointment, as may seem desirable.

There is another mode of treatment of which I have heard, but which I am happy to say I have never seen practiced. Some surgeons have been so heroic as to excise the whole mass of the carbuncle; some surgeons, too, have excised gummatous tumors. The first can be made to disappear under simple compression, and the second will be absorbed under the use of iodide of potassium. To excise one is as unnecessary and unjustifiable as to excise the other.

In this case, on account of the mode of treatment which we have adopted, the ulcer left after the separation of the sloughs will be small, and the cure will be much more rapid than it would be if we made incisions. I do not know of any instance in

which the dicta of "authority" have come down to us with more injury than in the treatment of carbuncle by incision.

TREATMENT OF SYPHILIS.—The only positive rule is, that the treatment of syphilis should be in accordance with what is known concerning the disease. The most industrious investigations have failed in detecting the actual virus of the disease, but there is little doubt that it is an organized product, and I regard the discovery of its specific bacteria as only a matter of time. The assumption of their existence rests on such firm grounds that it must exercise an influence on our conceptions of the malady. Its infectivity, its transmission by descent, and its other symptoms harmonize with the bacterial theory of its origin.

This being settled, three questions come up for consideration:

1. When should treatment begin? I reply, not before we are certain of our diagnosis. There are many physicians who look upon every sore arising from sexual intercourse as syphilitic, and at once attack it accordingly. This is the result of adherence to the theory that the virus of soft chancre is identical with that of syphilis, and that the difference in the symptoms of the two disorders is due to a difference in the tissues affected, or other accidental circumstances. I agree with the dualists, who look upon the two diseases as separate and distinct, as caused by different poisons, and their co-existence in the same subject as due to a simple coincidence. In renouncing the unitary theory of the diseases I reject its legitimate result—the immediate treatment of venereal ulcers. Nevertheless, instances are not uncommon in which immediate treatment is resorted to by professed dualists. I refer to those cases where a soft chancre is succeeded speedily by an outbreak of genuine syphilis. But even this does not justify a departure from the rule I have announced, for it should be regarded as due to the combined operation of two different poisons, that of soft chancre and that of syphilis, whose germs have been deposited at the same time, and both of which have run their usual course. Therefore, if we adopt the dualist view, a soft chancre affords no evidence that syphilis is about to follow, nor is it a ground for resorting to specific medication. This latter should be instituted only when unequivocal signs of syphilitic infection manifest themselves. This may

keep the patient in a state of suspense for several weeks, but this must be endured until we shall have learned to make a speedy diagnosis by recognising the bacteria in the chancrous secretion. After this delay the specific induration generally makes the diagnosis clear, when the sore is seated on the epidermis, for instance, on the lips of the urethral orifice. But when seated on the mucous membranes, especially that of the female genitals, it can rarely be identified as a primary syphilitic phenomenon, since here the formation of a sclerosis is anatomically impossible. In this case our decision must be postponed until time enough has elapsed for the supervention of constitutional symptoms.

An aid to diagnosis is often afforded by the lymphatic glands in connection with the part first affected, whatever its location. These glands often become indurated almost as soon as the primary sore itself, the difference in time being only what is required for the passage of the bacteria from the one situation to the other.

Treatment should begin as soon as we are certain the disease is present. Guided by our conception of the bacterial nature of the virus, our path lies plainly before us: we must as speedily as possible destroy the disease-producing germs. The simplest and most direct means for accomplishing this object would be by the immediate removal of the earliest focus of infection. Unfortunately, we must defer the procedure for about three weeks, until the nature of the complaint has been established by its visible manifestations.

But when these manifestations have occurred, is it not still possible to avoid constitutional contamination by destroying the chancre? This has been perseveringly attempted in a variety of ways, until the doctrine gained ground that the local affection is merely the expression of a general disease, and that therefore the removal of the former must be unavailing. It is only recently that the old-time theory and practice have been reverted to, as in full accord with the bacterial notion of the malady, and now we direct our efforts to the extirpation of the primary sore, in the hope of preventing at a single stroke, the extension of the mischief. That is, we regard the initial sore as simply the local focus of infection, as the chief if not the only source of general contamination.

Staunch advocate though I am of this

method, I must confess that its results have thus far not corresponded with our anticipations. Such excisions have been made in numerous cases, which yet have developed constitutional symptoms. How are these failures to be accounted for? On the ground that the operation did not remove all the morbid germs, but left them in sufficient quantity to bring about the general infection. Besides this, in most cases, the excision has been made too late. Despite these untoward results, I regard the procedure as advisable, and employ it myself in all cases where it is not forbidden by the localization of the sore on the glans, the corpus cavernosum, the lips of the urethra, etc. It is to be recommended, in the first place, by the rapidity with which healing is established, especially under antiseptic precautions; and secondly, by the possibility, even if be nothing more, that constitutional infection may be prevented, a consideration in itself sufficient to justify a resort to so harmless and locally advantageous an operation. The disease may also be rendered milder in cases where it cannot be entirely stopped.

On similar grounds I am strongly in favor of extirpating the lymphatic glands when primarily affected, although this is a measure which cannot be so safely attempted by the general practitioner as the simpler one just referred to. In the case of a soft chancre, on account of its extremely infectious nature, the excision must be preceded by a thorough destruction of the specific virus, with the strictest antiseptic precautions, if we would prevent the wound from becoming poisoned.

Finally, in deciding upon the feasibility of this operation, we must be governed by the circumstances of the individual case.

When excision is out of the question, or when we have reason to believe that general infection has taken place, I would advise that constitutional treatment be at once entered upon. And here I must express my dissent from those teachings, emanating from Vienna, according to which such treatment may be almost wholly dispensed with. Sigmund has reported that forty per cent of his patients got along so well of themselves, that they did not seem to require constitutional treatment. This is opposed to the experience of the French authorities, and especially to that of Fournier, who found that the severest forms of secondary syphilis were manifested in those whose primary symptoms had been remarkably

mild. We are not to conclude that the disease showed increased malignancy in its later stage because the primary affection had been of an opposite character. The fact is that treatment during the early stages being regarded as unnecessary, was neglected, and it is this neglect which must be held responsible for the subsequent aggravation.

This is only one out of numerous instances which might be adduced to show how little confidence can be reposed in statistics in reference to the disease under consideration. I take the side of Fournier in the issue thus raised, on theoretical grounds only, since, assuming the disease to be of bacterial origin, I infer that it is best treated by means adapted to remove the micro-organisms and prevent their reproduction without injury to the general system. It is my firm conviction that such an agent is to be found only in mercury, and therefore I say that every syphilitic patient ought to be brought under the influence of that drug as soon as the nature of the case is ascertained.

In view of the harmlessness of this remedy, the maintenance of a passive attitude in reference to the disorder seems to me to involve a decided sin of omission.

But it may be asked, why not resort to mercury in those cases where there is only a possibility that syphilis may have been contracted, that is, in every form of suspicious erosion and ulceration? I answer that this course will result not in the eradication of the malady, but in the transient disguising of those symptoms by which alone its real character is made known, so that the latter will be merely disguised by the deceptive appearance of restored health. It is unnecessary to insist upon the dangers which may be incurred by the patient and his family through a mistaken or even a doubtful diagnosis under such circumstances. We must therefore never resort to anti-syphilitic measures until assured that it is syphilis with which we have to deal.

2. What method of cure should we adopt? I regard inunctions as the best way of obtaining the effects of mercury. Mercurial baths I employ only when circumstances forbid the use of inunctions, or when treatment has to be repeated two or three times successively in the same case. Muller and Stern's solution of the sublimate with soda, or the mercurial peptones are better for subcutaneous injections. When rightly made, the formula, lately recommended by Liebreich, is advantageously used in this way,

by reason of its almost absolute painlessness, but it has not yet been sufficiently tested as to its efficacy in preventing relapses. For internal use I prefer corrosive sublimate in small doses. It is best given as an aqueous solution, with common salt and plenty of milk, so as to lessen its disturbing action on the stomach and bowels. The yellow iodide is much better tolerated by some, but is in great part passed off in the stools.

3. How long should constitutional treatment be continued? This question is easily answered as regards the cases characterized by frequent relapses. Here the use of mercury should be suspended at intervals according to the constitutional effects of the drug, the state of nutrition, etc.; it being borne in mind that mercury loses its peculiar action when administered continuously for too long a time. This latter consideration led Fournier to formulate his "alternate and intermittent" method, according to which the mercurial treatment is continued for at least one and one half to two years, with gradually increasing pauses of from four to eight weeks each, during which iodide of potassium is substituted.

When the disease has passed into the tertiary stage, iodide of potassium is the sovereign remedy, and it must not be given in too small doses. Experience has recently established that a combination of this drug with mercurial inunctions is of special value in severe syphilitic affections of the brain and cord. Here, too, we should remember Fournier's maxim "as well do nothing as not do enough," and administer the mercury freely.

But what shall be said of those cases in which the early symptoms are few and mild, and are seemingly succeeded by a return to sound health? Does the disease in them remain latent, and liable to break out at any time, or is it actually and permanently cured? To this question no general answer is possible in the present state of our knowledge. No test nor sign has been discovered which may serve as an unerring guide. I hold that every case in which the disease has thus manifested itself should be regarded as still a syphilitic and a fit subject for the mercurial treatment just referred to. I use this treatment in every case of the disease with three exceptions, viz., when tuberculosis or severe scrofulosis coexists; when there is a decided anæmic or cachectic condition; and finally, when the disease

is of the form known as "galloping syphilis." In this last, invigorating measures are all that is usually called for, until the vitality of the organism has been so restored as to admit of a return to direct antisyphilitic treatment.

Aside from these conditions, I believe that Fournier's method is preferable in the greater number of cases, and this is because of my belief in the bacterial origin of the disease.

It need scarcely be reminded that in conjunction with specific medication, the patient must be strengthened by suitable nourishment and favorable hygienic surroundings. The lowering diet so frequently advised in the earlier stages is altogether a mistake, except in case of overfed individuals.

The long continued mercurial and iodide treatment should be considered in relation to the hereditary transmission of syphilis. We know that when the disease runs its natural course, the liability to transmission diminishes at a certain rate, but this tendency may be increased by the judicious use of mercury. Now, since the degree of transmissibility has nothing whatever to do with the presence or absence of syphilitic symptoms, (apart from the effect of remedies,) it follows that any course of treatment depending upon the latter must be absolutely worthless in this regard. Looked at from a kindred point of view, Fournier's plan of cure assumes additional importance when it is considered that it demands not only a certain lapse of time between infection and marriage, but also during this interval the use of vigorous therapeutical measures.

A word before closing, in relation to the "chromwasser" treatment of Guntz. This, in my opinion, does not possess the advantages claimed for it by the inventor. His own communications on the subject, especially his numerous clinical histories, prove that he is far from having attained his object.—A Neisser, *Deutsche Med. Woch.*—*Journal of Cutaneous and Venereal Diseases.*

ON THE REMOVAL OF NASO-PHARYNGEAL TUMORS. By W. Thornley Stoker, M.D., F.R.C.S. Published in the *Medical Press*.

The term "naso-pharyngeal" has been applied in such different senses to tumors and polypi involving the nasal and pharyngeal cavities that I may preface the remarks I have to make by saying that I use

the expression only in reference to growths which, while invading the naso-pharyngeal space, have their origin in the osseous tissue forming its roof, usually the body of the sphenoid, or the basilar processes of the occipital bone, which, in fact, grow from the base of the skull. Although these masses form numerous secondary attachments, and although it is for that reason often difficult to distinguish their primary seat, yet it is generally possible to do so, and observers are sufficiently well agreed that they almost invariably spring from the situation I have mentioned.

The constitution of naso-pharyngeal growths is various — most frequently, perhaps, of the fibrous, sarcomatous or cartilaginous orders, or some derivative or admixture of them. They are not infrequently malignant, and are very likely to be rapid and destructive in their growth.

As regards shape, there are two varieties — sessile and pedunculated, the latter forming the so-called naso-pharyngeal "polypi," while to the former the term "tumors" is more properly applied. With the polypi or pedunculated growths I have no concern in my present communication. They are, as a rule, fibrous in structure, comparatively innocent, and easy of removal, not requiring any formidable operation, unless it is found impracticable to surround the pedicle with a noose, or to divide it through the nose with a cutting instrument. My remarks have to do with those growths which are generally of a more virulent nature, and whose broad attachments require severe operations for their exposure and division.

I need not dilate upon the horrible consequences produced by an extending naso-pharyngeal tumor, to excuse myself for bringing forward any cases which can throw a light upon the surgery of this condition. We have all watched the terrible progress of these tumors when unchecked by operation. We have seen them extending in different directions, and successively destroying the senses of smell, hearing and sight, destroying their victims by exhaustion, the result of discharge, hemorrhage, want of sleep, or dysphagia, suffocating him by extension toward the larynx, or, worst of all, after he has passed through an Inferno of suffering, invading his brain and leaving him toward his end in the dreadful condition of a creature without senses, possessing no functions save respiration, diges-

tion and circulation, with little life beyond that of a vegetable, an object of horror to all around him.

For these broad based growths, if they are in a state to admit of operation, there is but one measure that should be attempted, complete and thorough ablation. The great difficulty of this is found in the remoteness of the attachments, and the danger in exposing them sufficiently to insure their complete extirpation. Once the connections of the tumor have been thoroughly brought to command, it matters little by what means they are divided—the surgeon may please himself as to scoop or knife or cautery. The point which causes him the most anxiety is the primary stage of the operation, the proper exposure of the tumor so he can reach its attachments.

Three classes of operations have been practiced for this purpose:

1. Through the palate.
2. By partial or complete removal of the upper jaw.
2. By displacement of the upper jaw.

Of the operations through the palate, the most reputable, perhaps, is that of Nélaton, but bad is the best, because it not only affords a very difficult and limited access to the naso-pharyngeal cavity, but it exposes the part of the tumor most remote from its attachments.

The second class of operations, partial or complete removal of the jaw, as a means of exposing the disease, was first recommended by Whately, and practiced by Syme. It may still be occasionally called for, but most surgeons will probably regard it as obliterated from the list of usual procedures by the operations of the third class, those of displacement. In these latter, one of which should, if possible, be selected, the upper jaw, on one or both sides, is, by a complicated operation, divided superiorly, separated from its attachments, and displaced downward and outward. This method of operating has been practiced with success by Huguier and Langenbeck, and has the advantage over any ablation of the jaw that the parts are replaced when the disease is removed, no deformity remains, and the dental arch is restored.

My observation of the naso-pharyngeal growths have led me to the belief that in the great majority of cases such heroic measures are unnecessary, and that the disease can be attacked and removed through more limited openings than the measures I

have named are intended to afford. I have two reasons for coming to this conclusion: first, that the growth of the tumor has, by the time the operation is demanded, separated the superior maxillæ to a considerable extent, so that as the surgeon cuts or hacks away the disease, he finds his fingers in a cavity where he has room enough for action and exploration; and second, that the rough kind of cutting, scooping and gouging which is the best way of attacking these tumors, does not require much space for its exercise.

I do not wish to be understood as denying the necessity of the more formidable operation in some cases. What I seek to convey is that cases which to all appearances require these extreme measures may be radically dealt with by minor means, and I do not think that a surgeon can ever say with certainty what steps he may have to take until he begins to operate on one of these cases. * * * * *

The points, as I have said, which my cases seem to teach, are:

1. That, for reasons which I have already given, such an operation as those described generally affords sufficient access and room without having recourse to more heroic measures, and,
2. That having the foregoing in view, there is hope from even the most unpromising instances of the disease.

ANALYSIS OF SEVENTY-FIVE CONSECUTIVE CASES OF POSTERIOR SPINAL SCLEROSIS, WITH SPECIAL REFERENCE TO A SYPHILITIC ORIGIN.—In the last three years a considerable number of observers, European and American, have recorded the statistics of cases of posterior spinal sclerosis, with especial reference to its relation to syphilis. And every addition to these statistics, even if limited in numbers, is help towards the elucidation of the question of the etiology of tabes. Through extensive coöperative work of this kind, we may reap scientific and even practical results of some value. This consideration has led me to go through my case-books and contribute my mite to the subject.

The cases of tabes that have come under my observation since 1866 are naturally divisible into two classes, *i. e.*, those seen in private practice, and those observed at my clinic for diseases of the nervous system at the College of Physicians and Surgeons. The last named cases were examined and

published by my friend, Dr. Birdsall, last year, and I do not care now to reproduce that tabular statement. Suffice it to say, that Dr. Fuller, one of my clinical assistants, went to the trouble of going over the clinic case-books again, and reached the same numerical results as Dr. Birdsall.

I now propose to present the results of an analysis of the cases of tabes which have been seen by me in private practice.

The total number of cases was 75, including a number in the first stage, and a few which, while exhibiting many of the symptoms of tabes, were not typical.

I am surprised to find that in a large proportion no mention was made of syphilis,

No mention of syphilis,	21 cases....	28 per cent.
Syphilis mentioned	54 "	72 "

It is therefore better to exhibit the further proportionate results in a double aspect.

I. With reference to the total number of cases of tabes recorded:

Syphilis not mention in	21 cases....	28 per cent.
No chancre or syphilitic symptoms	15 "	20 "
History of chancre or syphilis in	39 "	52 "
	75 "	100 "

Thus in more than one half of the total of cases a distinct history of syphilis or of chancre was obtained.

II. In the more correct relation to the number of cases of tabes in which a positive statement was recorded on the point in question.

No syphilis or chancre in	15 cases....	27.78 p.c.
History of chancre or syphilis in	39 "	72.22 "
	54 "	100.00 "

This was somewhat in accord with the results of Erb, Fournier, Voight, Rumpf, and others.

For those who still believe in the distinct duality of the syphilitic poison (*i. e.*, in the existence of non-infecting chancres), the following additional summary may not be without interest:

Cases in which chancre alone occurred	23	42.69 p.c.
Cases in which chancre and secondary syphilis occurred	16	29.63 "
Cases in which there was no history of syphilis	15	27.18 "
	54	100.00 "

At first sight this exhibit might seem to

mitigate strongly against the syphilitic origin of tabes; but upon further consideration, when one reflects upon the very large proportion of common (*i. e.*, non-systematic) cerebral and spinal lesions, in which we only obtain a history of chancre, followed by years of good health, then by the nervous lesion, it becomes necessary to drop this objection. But even admitting that there are harmless "soft" chancres, we also know that in a large proportion of cases of "hard" chancres, skillful treatment may indefinitely postpone so-called secondary symptoms.—E. C. Seguin, *M.D. Archives of Medicine.*

PILOCARPINE IN ASCITES.—Ascites caused by cirrhosis of the liver has not been very amenable to treatment up to the present time. Most physicians have therefore come to the conclusion that paracentesis was the only resort. Drastics and diuretics had to be abandoned as inefficient, and, in fact, there seemed to be but little hope for this class of sufferers. Harley and Roberts allege that repeated paracentesis promises good results; while on the other hand there are those who have never accomplished anything by puncture. Mackenzie reports two diseases cured by means of flannel bandages wrapped tightly around the abdomen. Siegnit combines with the bandaging faradization of the abdominal muscles. From all the different reported cures one can readily understand that the treatment of ascites caused by disease of the liver has been quite unsatisfactory, and most of the cases have been treated on the expectant plan.

During the year 1880 the author treated a case of this kind by all the remedies that have been recommended in the books, but without good results. Finally paracentesis was resorted to, but with each operation matters grew worse, and the quantity of liquid steadily increased. It occurred to him to administer pilocarpine immediately after the operation, to prevent or give other course to the serous exudation that each time was emptied into the peritoneal cavity. The patient received twice daily 15 milligrammes of pilocarpine for six consecutive days, with the effect of causing profuse diaphoresis and discharge from the salivary glands. Stimulants were given the patient to counteract the weakening effects of this medication. From the administration of the first dose the ascites diminished, and

the patient was finally discharged from the hospital as cured. Three months later the patient was examined, but did not discover a symptom indicating disease of the liver or ascites.

Another case the author treated in conjunction with Dr. Haas. The diagnosis was an enormous ascites caused by disease of the liver. The swelling was so great that it caused dyspnea, for the relief of which paracentesis was made a few times, and 20 to 30 litres of fluid were removed. The effect was not lasting. Finally the respirations ran 38 and the pulse 118 per minute. The urinary secretion was entirely suppressed. After a consultation it was determined to employ large doses of pilocarpine, for the case seemed hopeless. The patient received twice daily 10 grammes of pilocarpine in a large dose of whiskey, besides some solid food. The drug did not seem to act so favorably in this case, diaphoresis being very scanty. Two weeks later, after another puncture, the dose was increased to two centigrammes, and followed by a large dose of whiskey, with the result of causing profuse sweating. Powdered jalap with cream of tartar was given in conjunction for the constipation. The patient recovered, and was as healthy as ever.

If the results in these two cases do not indicate much, they may induce other observers to try the same treatment. Paracentesis not only often does no good, but seems to do harm. Both of these patients were very much weakened, and it seems almost incredible that they could tolerate two centigrammes of pilocarpine twice a day, but probably the large doses of stimulants given shortly after did much to counteract the depressing effect of the drug.—*London Med. Record.*

EXCELLENT ADVICE REGARDING THE USE OF THE CATHETER. — The use of the catheter is in itself, to some extent, an evil—a very slight one if properly conducted, capable of becoming considerable in careless or unwise hands. A catheter is, therefore, only to be used when the evil to be removed by its means may be regarded as more grave than that which is incurred by using the instrument, and such conditions as these are daily presented in practice. Let, then, every instrument employed be that which can be most easily passed, and is made of the least irritating material, always, of course, consistently with the effi-

cient attainment of the object in view. Thus metallic or rigid instruments, as a rule, should only be used when those which are soft and flexible have failed; and for whatever purpose they should not be larger than the needs of each case demand. By such gentle treatment a very considerable improvement in most cases is certainly attainable, and in the course of time the greatly exaggerated antipathy which widely exists to the use of instrumental treatment in the bladder will gradually but certainly disappear.

I have one more caution to utter in regard to habitual catheterization for those elderly persons whose circumstances have been referred to, which is of great importance.

When the bladder has for a long period been over distended—the patient's condition having been overlooked for months, or even for years, in consequence, perhaps, of catheterism having been forbidden—it is at this advanced period of the case, a serious matter to resort to. Rashly undertaken, great as is the relief at first experienced, symptoms of fever—"urinary fever," as it is, I think, properly termed—often appears in a few days; cystitis occurs, catheterism is required more frequently, the urine becomes highly purulent, the powers of life feeble, the tongue dry, nourishment is refused, and the patient sinks—usually in about three or four weeks after the employment of the instrument. If a necropsy be made, almost invariably the ureters will be found enlarged on one or both sides; one of the kidneys diminished in bulk and wasted, the other enlarged, inflamed, and perhaps the seat of numerous deposits of pus. It is said that such fatal histories following catheterism for long-continued distension of the bladder have occurred in individuals whose urinary organs, examined after death, are found free from organic disease. Far be it from me to state that such a sequence of events is impossible, but it must be one of great rarity. No example has occurred within the range of my experience.

When a patient whose vesical functions have been long impaired requires artificial relief, the best chance of saving him is to enjoin at once the recumbent position in a warm and equitable temperature, usually in his bed room, in order that the skin may act freely, and that no locomotion may be possible. The catheter should be used

skillfully and gently, not at first emptying the bladder completely, but always removing the instrument when pain is felt, as it often is before this condition is reached, and it must be applied again as soon as relief is manifestly required. I can scarcely over estimate the value of these precautions nor advise too strongly the abstinence from movement and exposure of all kinds for a period of a few weeks in these particular cases. We may thus sometimes succeed in prolonging life, even at a very advanced term, and at the same time avoid the groundless but injurious opposition which is often manifested, as we have seen, to the use of the catheter, the want of which at an early period of the patient's history, not the late recourse to it, has been the real cause of death in almost every one of the fatal cases described.—Sir Henry Thompson's Lectures, in *Canada Med. and Surg. Journal*.

DILATATION OF THE STOMACH. — At a recent meeting of the Société Médicale des Hopitaux, M. Bouchard read a communication on the frequent occurrence of dilatation of the stomach, and of the consequences of this morbid condition. He has observed two hundred and twenty cases of gastric dilatation, and his statistical researches have proved that thirty per cent. of sickly people are the subjects of this affection. Among patients treated for chronic maladies dilatation is found as frequently as sixty per cent. More often this distension is not revealed by any symptom except such as is revealed by physical examination of the organ in question. There are no digestive troubles in about a third of the number of cases. In the majority of cases the sign of dilatation is a "bruit de clapotement," a splashing sound when the gastric region is percussed below the level of a line which joins the navel to the lower border of the fifth rib. To have any clinical significance this sign must be observed in the morning, when fasting, or when the patient has had only a glass of water.

According to M. Bouchard, dilatation is the cause and not the consequence of dyspepsia.

Gastric dilatation may lead to numerous troubles, of which the following are the principal:

1. Digestive disturbances, distension, eructations, acidity, fetid breath, constipation, mucous discharges, hemorrhoids.

2. Congestion and swelling of the liver, producing depression of the right kidney, which has been regarded by Bartels as primary.

3. Nervous disorders, consisting of headache, nightmare, migraine, vertigo, weakness of memory, loss of strength, priapism, hallucinations, palpitations, shortness of breath, post sternal pain, angina pectoris, etc.

4. Alterations in the urine, which may contain urate sediments, sugar, albumen or peptones.

5. Cutaneous eruptions:

6. Bronchitis, coryza, and asthmatic attacks.

7. Cardiac lesions, purpura and nodular rheumatism.

All these manifestations do not exist at once, but their existence, isolated or simultaneous, has allowed of a division of the malady into various forms, dyspeptic, enteric, hepatic, renal, cardiac, cutaneous, rheumatic, consumptive. The links which bind gastric dilatation to these various conditions are more difficult of demonstration.

Dilatation of the stomach first hinders the elaboration of the food, thereby provoking unhealthy fermentations and multiplication of the figured elements of the stomach. Products of fermentation of the alimentary bodies are noxious and even, at times, toxic. It is the injurious action of these products on the economy which are the worst pathological consequences of dilatation of the stomach. M. Dujardin-Beaumetz, in discussing this paper, urged wisely that the splashing sound heard on percussion is, perhaps, hardly sufficient to diagnose dilatation.—*Med. News*.

RAPID CURE OF SOFT CHANCRES.—Exceptionally, chancroids heal in fifteen days. The greater number require from four to six or even eight weeks, and some even take three or four months. After many trials, Ricord found the best results from dressing with nitrate of silver, solution 1 in 30; then in the tartrate of iron and potash, and more lately iodoform.

Hebra has lately promised an entire cure in a few days by the topical employment of salicylic acid. He begins by carefully cleansing the penis with warm water, removing all crusts and dried pus and trace of former dressings; for the latter he uses oil and spirits of soap. On the cleansed and dried penis salicylic acid is applied in a

manner to cover the sore and a very narrow margin. The healthy skin, as far as possible, must be preserved beyond all irritation which might favor auto-inoculation. The salicylic powder is maintained in place by a thin layer of wadding fixed by a band of adhesive plaster. If the suppuration is not very abundant it is sufficient to renew the dressing once in twenty-four hours—otherwise morning and evening—taking care to wash the wound thoroughly each time.

After the end of the first day the ulceration is covered by a whitish scab, while the neighboring margin of skin is slightly reddened. The scab increases in thickness, and by the third day the salicylic powder may be discontinued, and a simple ointment applied and kept in position by wadding and adhesive plaster. Usually the scab falls in a half a day, leaving a simple wound, deprived of virulence, which only takes two or three days to heal completely. This method acts without causing pain, and is of very great cleanliness. The most important advantage is the suppression or abortion of buboes.

Dr. Barthelency, in reporting this communication for the *Union Médicale*, justly says that the method is worthy of trial.—*Canadian Practitioner*.

REDUCTION OF SUBCORACOID DISLOCATIONS.—Reduction of subcoracoid dislocations, as directed by Kocher, is accomplished as follows: Patient, sitting up, the forearm is fixed to a right angle with the arm, the elbow pressed firmly to the side of the chest; the arm rotated outward until firm resistance is met with; then the arm, still rotated, the elbow is carried forward and inward over the chest to near the median line; then the arm rotated inward. The last movement is one of restitution, and carries the shoulder opposite the one dislocated. These manipulations resolve themselves practically into two movements—outward rotation and flexion. Dr. C. A. Jersey (*New York Medical Jour.*, December 8, 1883). says the advantages of this method are:

1. The control obtained over the humerus by the position of the forearm.
2. The advantage obtained by the relaxation of the edges of the rent in the capsular ligament.
3. The absence of the necessity for the employment of anesthetic.

4. The absence of pain to the patient and of discomfort to both surgeon and patient as compared to other methods.—*Medical Herald*.

In Memoriam.

J. J. WOODWARD, M.D.

DR. JOSEPH JANVRIN WOODWARD, M.D., U.S.A. — The telegraph announces the death of this distinguished gentleman on the eighteenth of the present month.

Dr. Woodward was born in Philadelphia in 1832, received a thorough literary education in that city, and his medical education at the University of Pennsylvania, from which institution he graduated in 1853.

For a short time he practiced his profession in Philadelphia, and was also engaged in teaching microscopical and pathological anatomy.

He entered the army at the breaking out of the war of the rebellion, and was assigned to duty in the Surgeon General's office, from whence he published some most valuable papers, notably, an address on "The Medical Staff of the United States Army," "Remarks on Croup and Diphtheria," "Typho-Malarial Fever: Is it a Special Type of Fever?" "Remarks on Photographic Micrometry," in several papers; "Causes and Pathology of Pyemia."

Dr. Woodward was elected in 1882 President of the American Medical Association, but, on account of ill health, was traveling in Europe at the time the Association met in St. Paul, and was thus prevented from presiding over its sessions.

The preparation of pathological specimens for the United States Army Medical Museum was committed to his care, and most carefully did he perform the allotted task. His labors in the government service have been fitly recognized by the chief officers of the nation, and by his profession. He was one of the physicians selected to attend President Garfield during his last illness, the purely scientific labor of that trying occasion being committed to his individual care.

Dr. Woodward was a man whom to know was to love, and to be associated with, a high honor. It can truly be said: we have met with few such men.

Original Articles.

THE SO-CALLED PERFORATING ULCER OF THE FOOT. SPONTANEOUS PODALIC GANGRENE LIMITED TO SMALL AREA.

By T. MITCHELL CHANCE, Cleveland, O.
Late lecturer on Minor Surgery, Medico-Chirurgical College, Philadelphia.

The literature of gangrene of the foot occurring as a secondary result of injuries; as a direct effect of the long continued use of ergot, or ergotized bread; and from calcification of the arteries of the foot and leg, is quite rich and decided. Of the varieties arising from other causes, however, but little is known, the few authors who acknowledge such cases vacillating much, and differing widely in their opinions concerning the etiology of these rare forms of the disease.

Eliminating, then, all but the latter class, we have for consideration all those obscure cases of dry gangrenous action occurring spontaneously in the foot, and generally limited to small circumscribed areas, and which are not assignable to high degrees of heat or cold, injuries, drugs, or well marked atheroma. These cases constitute the disease known as perforating ulcer of the foot, or idiopathic foot ulcer. As the ulcer is but a secondary result, I have proposed the above title, which though cumbersome, is explanatory of the primary pathological lesion, while the former title is misleading, giving the impression that the disease is essentially an ulceration, which it is not.

The gangrene occurs in oval or round patches, commencing in the integument, and assuming from the start, a chronic or subacute character it gradually involves the underlying structures to a variable extent. These patches commence as small, dark, discolorations of the skin much resembling a bruise, there being no elevation or depression of the cuticle until suppuration has occurred beneath; there is no inflammatory areola, unusual heat, or other sign of inflammation for one, two, or three weeks: the affected skin becomes dry, mummified, and, when suppuration occurs, sinks below the level of the surrounding integument, but does not separate until after suppuration has continued for several weeks or perhaps months. The tissues beneath this slough being constantly bathed in pus for so long a time, and being in a debilitated

condition, are softened, pulpified, and frequently participate in the gangrenous action until healthier structure is reached, when the ulcerative process replaces the gangrenous. In this manner an ulcer of a low type is produced; this ulcer having a tendency to perpendicular erosive action, hence the name perforating ulcer. The reason why the ulcer spreads in this direction, while ordinary ulcers have a tendency to spread laterally, will be obvious enough when their special pathology is considered. There is, in the first place, an impassable barrier to the passage of the pus laterally, as the slough is closely adherent at its periphery for several weeks after suppuration has loosened it elsewhere. Then there is, in my opinion, more or less deep-seated artereal disease, either primary or secondary, whereas in simple ulcers the veins of the integument are mostly at fault. Thus, in the perforating ulcer the deeper tissues are in an already weakened condition, but in the simple varieties it is the integument alone, which having met with some injury, is particularly susceptible, by reason of the varicose conditions of its veins, or other superficial circulatory disease. However, a perforating ulcer may occur from the first of these causes alone; thus I have seen this ulcer follow vaccination in an anemic clergyman of forty years, the third or fourth scab remaining on the arm for three weeks, and allowing the confined pus to erode the subcutaneous structures.

The atheromatous degeneration of the arteries accompanying chronic interstitial nephritis, especially when complicated with obstructive aortic disease, may act as a predisposing cause of perforating ulcer; so may subacute arteritis, and, probably, subacute phlebitis, but it is rather difficult to believe that peripheral nerve lesions acting alone could produce this singular malady. On the other hand, deep-seated centric nervous disease might readily so alter the nutrition of the part as to predispose it to this form of ulcer or gangrene. However, I believe that whether primary or secondary in their appearance, arterial or venous lesions are always factors in the production of perforating ulcer; but that nervous diseases and various blood dyscrasias may, and frequently do play the principal role in the etiology of the affection, I do not doubt. If these views be correct, the treatment and prognosis and treatment must be widely different from those of simple ulcer. The local

treatment becomes of comparatively trivial importance, and the general treatment rises to a paramount consideration. The prognosis is generally unfavorable, both regarding the healing of the ulcer and the recovery of the patient. Restoration to perfect health is not to be expected. Ulcer after ulcer may form and the patient's strength becomes exhausted, or the original sore or sores refuse to heal, and not unfrequently he perishes from the intercurrent disease of which the sore is only a local expression. On the other hand, many patients make a good, but tedious recovery. The ulcer may at any time become the seat of pyemic infection, though this accident is rare. The cicatrix may become diseased, and may even become the seat of epithelioma, keloid or lupus, but is not yet settled whether it is more obnoxious to these tumors than is the cicatrix of simple ulceration.

The perforating ulcer has more or less frequently been found associated with locomotor ataxia and other nervous diseases, with chronic Bright's disease, glycosuria, and other general diseases. So frequently has the first named affection been found to co-exist with it as to lead many surgeons to consider the ulcer a symptom of the nervous lesion. Ball and Thibierge consider it almost pathognomonic of early posterior spinal sclerosis. Dr. John H. Brinton of Philadelphia tells me he has frequently noted the association of the perforating ulcer and glycosuria, and in a case of my own the concomitant affection and apparent cause was chronic interstitial nephritis associated with atheromatous degeneration of the arteries of the leg and foot.

The presence or absence, then, of such affections will influence to a certain extent the diagnosis. The urine should be examined chemically and microscopically in all doubtful cases. It will be well to test the various reflexes, and exclude, if possible, locomotor ataxia, the larger arteries and veins should be carefully examined from time to time, and the presence or absence of cardiac disease noted. Having ascertained these points the value of the local symptoms will be much enhanced.

The origin of the perforating ulcer is widely different from that of the simple or syphilitic ulcer. The former is first seen as a gangrenous discoloration of the skin, which after several weeks becomes mummified and dessicates, or comes away as a thick slough. But this latter event is very tardy,

generally requiring weeks, and sometimes months for its detachment, which is not fully accomplished until considerable inflammatory action has occurred, causing planes of demarcation beneath and parallel to the integument before they form, or are well marked on the surface. Thus we have an ulcer covered by a dry gangrenous skin which is attached at the periphery but free elsewhere. The superficial lines of separation and demarcation which have but shallow gutters up to this time, may now be passed over by the gangrenous action, and a second, third, fourth or fifth effort be made to effect the separation of the slough before it is actually detached. During this time, which is generally two or three weeks, the suppuration is going on beneath the slough, causing serious inroads upon the subjacent structures, until quite a clean, well defined excavation has been produced. Before this the surrounding tissues have become edematous, the superficial veins stand out prominently, and the lymphatic vessels may occasionally be seen as fine red lines running in all directions over and up the foot, or else the foot may look natural, with the exception of a slight inflammatory areola immediately around the gangrenous spot or ulcer, as it now is. From this time until the ulcerative action ceases, pains of a shooting and sometimes burning character are experienced in the foot and toes. When large nerves are involved the pain is excruciating, requiring anodynes to procure rest and sleep. In many cases the pains are experienced long before the spot appears, but they are always aggravated as the process becomes active.

The slough is generally several weeks in separating. In one case of which I have preserved notes, two months passed before it was entirely detached, and then art aided its separation. The edges of the ulcer are undermined or else straight cut, the color of the edges being a florid red or a pink, while its floor is generally gray at first, but gradually becomes yellow from the suppuration which ensues. However, it occasionally becomes black from a renewal of the gangrenous action, or it may become dark in certain spots while it retains a light color in others, due to the variety of actions the various exposed tissues take on. Thus, exposed tendons separate slowly, the gangrene taking a more chronic form in these tissues than in the softer and more highly organized parts. If the surrounding integument is

healthy and uninjured by excessive poulticing or other applications, the gangrene may spread from above downwards only, until the tendons, nerves and blood-vessels, or the joints are exposed and opened. It is rare, however, for the ulcer to eat its way entirely through the foot. The patient may die before this can occur in some cases.

The spots are generally about the same size, and pursue the same course, when multiple as when single. There are rarely more than four or five, generally but one or two.

They are round or oval, the greatest diameters varying from two or three lines to as many inches, but are in most instances not over one and a half inches in the long diameter.

As a rule, the perforating ulcer is situated on the plantar surface or along the outside edge of it, thus showing its inherent tendency to select the less vital portions of the integument, the skin in these portions being more or less calloused. However, it frequently occurs on other parts of the foot, but rarely on the toes.

Most patients complain of shooting, darting pains in the foot for a variable period previous to the appearance of the gangrenous spot. In one case, which I shall report in full, these pains had been occasionally felt for two years before the appearance of the lesion. These pains are similar to, and frequently are, those of locomotor ataxia, but when confined to one foot or limb, are not connected with the latter disease.

Unlike senile gangrene, it occurs at all ages, although advanced age seems particularly obnoxious to it. Again, the wealthy are more frequently sufferers from this disease than the poor.

The lesion does not apparently follow accidents or injuries to the part involved, although tight shoes and frost-bites have been assigned as exciting causes.

Intractable ulcers of various kinds may form on the foot as well as in other localities, but the so-called perforating ulcer can be differentiated from other varieties by attention to the following characteristics: the preceding pains, the frequent presence of locomotor ataxia or other nervous lesions; glycosuria or chronic interstitial nephritis; the gangrenous nature of the initial lesion; its site, its extremely chronic nature, and its tendency to perforate instead of spreading laterally; not unfrequently the anterior or posterior tibial arteries are found to be atheromatous.

The simple ulcer never exhibits the initial gangrene; syphilitic or other specific ulcers are not confined to the foot, their color is characteristic, and they have a different history of preceding symptoms. The ulcers of anesthetic leprosy occurring in the foot alone, might be perplexing in their early stages, but the whole surface soon becoming affected, all doubt will be dissipated. Then again, a chilblain might possibly mislead, or a bruise at first be deceiving, but a careful examination of the arteries of the part, and a consideration of the history will, with a lapse of a few days, eliminate these sources of error, and the true nature of the affection will become evident. Should the urine be normal, and no symptoms of nervous disease be discernible, the probability of the ulcer being simple is much stronger.

The treatment is obvious: all depressing measures are to be avoided, and general tonic treatment to be adopted. Iron, quinine, and if the heart's action be feeble, digitalis, are indicated. Alcohol in various forms, and a most nourishing but unstimulating diet should be given after the violence of the action is passed. Pain should be allayed and sleep promoted by opium, best given in pill form, the solid extract having almost a specific tonic action on the capillaries in these conditions, and is consequently preferable to other narcotics.

The most simple local applications are the best, all those harsh remedies which act well in simple ulcers only aggravating this variety. Prolonged poulticing is especially pernicious; lowering the vitality of the surrounding integument and rendering it more susceptible to the gangrenous process. I have seen a well marked line of separation passed over in this way. On the other hand, small, light poultices, not overlapping the line of separation are of much value, promoting the removal of the slough, and if properly medicated and renewed, rendering the sore antiseptic.

The venous circulation generally being quite sluggish, the elevated position, rest, and judicious massage of the leg are proper.

The following case, occurring in my practice while in Philadelphia, will serve to illustrate the more salient points of this article.

Mr. J. C., æt. 64; American; 5 ft. 11 in.; about 140 lbs.; spare built, and not muscular; the father of eleven healthy children, two of whom died in infancy of non-specific infantile diseases. He had pneumonia at

nineteen years of age, acute cerebritis from mental strain at thirty-five; dislocation of the semilunar cartilage of the right knee joint in 1860, 1880 and 1883, also several sprains of the right ankle, and suffered from frostbite of both feet when a boy. He remembers no other diseases or accidents, and has always enjoyed excellent health, being exceedingly temperate.

About two years ago he suffered from nocturnal pains and numbness in the toes of the right foot. This I attributed to frostbite at the time, but regarded my diagnosis as questionable, there being no other signs of chilblain. He was free from gout, rheumatism and syphilis, and the urine was then chemically normal. However, the smaller veins and capillaries of both ankles were dilated, the circulation sluggish, and oedema quite conspicuous around the ankles, but confined to this situation. The pains readily yielded to local stimulating treatment, and he was not troubled again until some twenty months after this, but the other symptoms remained, subject to exacerbations, for this whole period.

During November, 1883, he complained of a tired feeling, but otherwise enjoyed good health. About December 25, 1883, a small black spot, about one eighth of an inch in diameter, appeared over the inner aspect of the metatarsal joint of the right great toe. A few days later a similar but smaller spot appeared about half an inch above the first one. The latter soon became quite painful, and suppuration occurred in a few days, the pus was evacuated, poultices applied and a prompt cure effected. The smaller spot pursued a similar course. A third spot, larger than either of the preceding ones, now appeared on the dorsal integument covering the space between the metatarsal joints of the fourth and fifth toes. It was oval in shape, measuring three lines in its long, and two and a half lines in its short diameter. The color was dark green. There was no pain, swelling, heat or other sign of inflammation.

The spot was neither elevated nor depressed, but was simply hard and discolored. Both ankles were oedematous, and their superficial veins and capillaries dilated and varicose. The spot gradually enlarged, and within two weeks time a slight inflammatory blush appeared. Smarting pains were now developed over the whole dorsal surface of the right foot, its warmth increased, the areola increased in size and deepened in color,

and the surrounding integument became smooth, tense, shining and punctated with numerous ecchymoses. The skin covering the phalangeal joints soon became similarly affected, but this condition passed away after desquamation of the cuticle, which occurred all over the dorsal surface.

By February 1st, about twenty-one days from its first appearance, the spot measured 6 x 4 lines; a line of demarcation was now visible and, a few days later, a superficial line of separation appeared. Small flaxseed poultices, renewed every two hours, were now used, except at night when salicylated cotton wet with cold water was substituted. The constant poulticing so lowered the vitality of the surrounding integument as to occasion an extension of the gangrenous process, the line of separation being passed over to the extent of three lines.

By February 10th, a second line of demarcation had formed, and was soon followed by a shallow gutter of separation, which was passed over as before, so that by February 20th the spot measured 9 x 6 lines. Suppuration was now progressing beneath the scab, which was now partially detached in the centre, but closely adherent at its periphery, and was, consequently, depressed below the level of the surrounding skin. The original centre was now dark green, but the over-run portions, forming now its periphery, was yellowish brown, but changed to a dark brown when poulticed.

Pains of a shooting, darting, character had been for some time quite distressing, requiring anodynes at night to procure sleep and rest. The warmth of the bed and the recumbent position seemed to aggravate these pains, the patient resting well in an arm-chair. Digestion was good and the appetite fair. Refusing anodynes, for several weeks, however, he became emaciated, nervous and irritable from loss of sleep. The muscles generally were poorly developed, and having but little adipose tissue, they exhibited in a marked degree the loss of substance they had sustained. That this muscular atrophy was due to non-usage will be evident when his former and subsequent history are considered. Careful measurements of his limbs gave the following dimensions for the thighs and calves:

Right thigh (circumference at junction of middle and lower thirds), 10 inches.

Left thigh,	10½ inches.
Right leg (just below the condyles),	10 "
Left leg,	10½ "
Right calf (largest circumf.),	10 "
Left calf,	11 "

Thus it is seen that the limb affected (which should naturally be equal to or larger than the left), became atrophied in a more marked degree than its fellow which was still used.

There were no symptoms of locomotor ataxia at any time except the darting pains and muscular twitchings, which may be easily accounted for by the exhausted and nervous condition of the patient and the implication of the exposed nerve. The twitchings were general, came on late in course of the ulcer and were mostly confined to the affected member. His eyesight was good: no change in it for years. The reflexes were all normal. His gait had always been steady. He was quite nervous, but alimentation was normal; the ventricular systole was rather feeble and, for a week or two, slightly intermittent—all the other heart sounds were normal—there was no valvular lesion. The liver acted well, but the kidneys were sluggish, the urine being below normal regarding quantity. Repeated analyses gave a low specific gravity, from 1018 to 1020 as a rule; there was generally a small amount of albumen, a few epithelial casts and, very occasionally, a few hyaline casts; there were numerous crystals of uric acid and oxalate of lime; there was no sugar. There was some considerable calcification of the anterior and posterior tibials of the right foot, and slight calcification of the left posterior tibial, but pulsation was still present, although quite feeble.

On March 6th, a hard nodule was detected on the left leg, at the middle third, running parallel to and one inch from the anterior edge of the tibia; it was about one inch in length by half an inch in width. By March 10th, its dimensions were increased to three-fourths of an inch in width by two and three-fourths inches in length; it was now painful, the patient was weak, nervous and the pulse intermittent. Arteritis was supposed to be the cause and he was consequently put upon larger doses of quinine, the leg painted with tinct. iodinii and then elevated. By March 17th the tumor had almost disappeared, the pain had ceased and the patient was in a

much better condition; it was some weeks, however, before the induration entirely disappeared.

Up to this time he had been taking quinine, iron, and an occasional dose of Hunyada Janos water, to counteract the effect of the opium given at bedtime. The forms of the drugs was occasionally changed and during one week he took a pill containing iron, quinine, strychnia and digitalis. He was kept upon a very nourishing and variable diet, including large quantities of milk and small quantities of light wines and brandy.

The poultices were used on the ulcer up to February 24th, when salicylated cotton wet with water was substituted and nothing else used for four weeks; the cotton dressing was renewed every two hours during the day.

By March 25th, the slough had entirely separated and, the granulations appearing weak, a three grains to the ounce solution of sulphate of copper was used several times, but only seemed to aggravate the irritability of the ulcer, and was replaced by a powder of equal parts of iodoform, gum acacia and bismuth sub-carb.

The ulcer was now in a sluggish condition; the tendons were exposed, and soon separated; they were cut off close to the edges of the sore. Cicatrization commenced at the periphery and was particularly tedious about the cut ends of the tendons. Pure iodoform was now used and about April 25th pure oxide of zinc ointment was substituted for the former. The ulcer was entirely covered with a healthy cicatrix by July 10th, and a few weeks after the foot was used, without support, with comfort. The oedema, however, still continues up to this time, August 14th, but his general health is good. As the patient has been at the seashore, I have been unable to examine him for over three months, but he has no evident symptoms of locomotor ataxia or any other nerve lesion, according to his accounts.

DOCTORS AND PATIENTS.—A bill has passed in Congress protecting physicians in the matter of not disclosing the confidential communications of their patients.—*Medical Herald.*

DR. ROBERT LUEDEKING succeeds Dr. Julius Wise as editor of *The Weekly Review*.

TREATMENT OF HAY FEVER.

L. F. ROUSH, M.D. New Haven, W. Va.

This is a subject so little understood by the profession generally, that I am constrained to write you a few notes for publication.

The article by Lennox Brown F.R.C.S. published in the *British Medical Journal* on the treatment of this disease is a step in the right direction.

It is a disease set up by the irritation of and emanation from some form of vegetation and this long continued irritation finally produces a grade of inflammation in the air passages.

The idea of treating it like a catarrh has taken such a hold on the profession that it seems impossible to get rid of it. All the old remedies for the catarrh acute or chronic that stimulates the mucus membrane by their local application positively aggravate the disease and no agent benefits unless it allays irritation by its local application or its systemic effect. I make these statement, dogmatically, because I am assured of their correctness.

What are the remedies which have been found most useful in the alleviation of this distressing malady? Purely those which relieve irritation locally applied or from their constitutional effect. Opium or its salts or bella-donna or its active principle atropia, have the best effect administered internally, a moderate dose of morphia, opium or laudanum will sometimes relieve for twenty-four hours. The use of these agents however are generally known to the profession and to some extent utilized, but I wish to speak of one article in particular that I have not seen mentioned as a remedy, and one from which patients suffering according to my experience will get more relief than any other. This agent is alcohol, either pure or 96° in some of its forms, as whiskey or bay rum. The local use by inhalation from a small sponge either kept occasionally as the irritation requires, or applied to the nose occasionally.

When the disease commences the irritation is not great, then bay rum inhaled from a sponge will be of the greatest benefit, finally as the disease advances, the irritation becomes greater and it cannot overcome the effect of the irritant and soothe the inflamed mucus membrane of the nose, we must use the pure alcohol as it is given off in vapor to the air as it is drawn through the sponge,

In using either of these agents the inhalation must be made slowly so as not to get too great a quantity at once upon the mucus lining of the nose, because by inhaling forcibly it would prove irritating. The idea is to diminish molecular action, and this the alcohol will do if used by careful inhalation. These remarks apply to the treatment of the disease as it affects the nasal membrane, and I will add that if this irritation be kept under control and the patient take a cool sponge-bath during the heat of the day, he will not be so likely to suffer from the asthmatic part of the disease. But he must be careful about his diet and in fact all the exciting or aggravating causes of asthma. The remedies applicable to asthma from any other cause are likewise applicable in this case. A great deal of the phenomena are due to replexis irritation and this is likely the cause of the asthmatic symptoms. The irritation in the eyes and hard and soft palate we are inclined to believe due to this cause.

The patient is also to avoid bright sun light, or having eyes turned in the direction of lamp-light, or even looking at the pale soft rays of the moon will excite paroxysms of sneezing. This effect is unquestionably due to reflex action and is to my mind one of the most beautiful examples, of this law. I suppose all are conversant with the fact that when any one has a disposition to sneeze that looking towards the sun will produce the sneeze when otherwise it would not come on. And from this example and this effect it is easily understood why we should instruct patients to avoid the direct rays of the sun. Dust of every kind will aggravate the disease, not the dust flying from a road so much, as the dust caused by going into a field in dry weather and working among the weeds or grass. It is generally believed in this country to be due to the pollen given off from rag weed but there exists no doubt in my own mind that there are other potent factors in its production. With the hope that these few thoughts hastily jotted down will lead some one in the true path, I ask their publication.

NOTICE TO PHYSICIANS.

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Society Reports.

THE CHICAGO MEDICAL SOCIETY.

Stated Meeting, August 18, 1884.

"Remarks on Cutaneous Therapeutics," is the subject of a thesis, that Dr. P. C. JENSON is pleased to term a paper that he read before the Society on the evening of the above date, of which the following principle points are appended.

"Inasmuch as the integument retains many of its primitive characters from early embryonic life, when it dipped into the interior of the body by deep folds and involutions to be subsequently differentiated into organs for special function, as, alimentary canal, and necessary organs, furnishing prolongations to the formation of spleen, kidneys, bladder and external and internal genital organs etc., and owing to the fact that in all instances the excretory organs consist essentially of liminary membrane, forming part of the integument of the body or its involutions, that the lachrymal, salivary, pancreatic and mammary glands, are in like manner composed of the true skin or of the mucus membrane lining the alimentary canal involuted into tubes and follicles, the free surface of which is covered with epithelial cells etc. It is from this early embryological relation of the true skin to internal organs which furnish us so essential a factor in therapeutics of disease. In cutaneous diseases as in lesions of internal organs, it is worth remembering that much of the functions of disabled organs can be carried on by compensatory action of neighboring organs.

In congestion of the kidneys we relieve and deplete by bringing the skin and bowels into energetic action and by removing the burden we rest the overworked kidney, conversely eliminating by all the emunctories is essential in treatment of diseases of the skin. Upon a back of a horse, Colin, caused water impregnated with potassic cyanide to drip for five hours, the percussion effected destruction of the sebaceous matter, with absorption of the cyanide and poisoned the animal. In Vienna, patients have remained immersed in a bath for weeks and months, without any perceptible degree of absorption taking place, usually the small quantity absorbed is either introduced by points of transition between the skin and mucus membrane, or the orifices of the sebaceous and sudoripar-

ous glands. When the cutaneous surface of a limb is immersed in putrid gases, absorption takes place (Bichats) and the poison is subsequently eliminated by the bowels. The rate and degree of absorption of any medicine will depend largely on its power of diffusion, physiologically the skin may be considered a colloidal septum, on one side of which lie the blood vessels containing an alkaline fluid, while an acid is on the other side, a condition most favorable to osmosis. Medicinal substances in aqueous solution slowly permeate the skin to enter the circulation. Alkaloids dissolved in chloroform are readily transferred through the skin to the bloodvessels while alcohol and aqueous solutions are either not at all or very slowly absorbed (Waller) whose observations was made with chloroformic solutions of atropia, aconite, morphia and strychnine. The same physiologist determined, that alcohol mixed with chloroform did not retard absorption, but alcohol alone caused an osmotic flow. With these remarks as a foundation we proceed to the *Therapeutics in local treatment of skin disease.*

1. Protectives, air to be excluded when its contact is injurious.
2. Cleanliness, through ablution, removal and prevention of diseased products.
3. To check or limit liquid disease products, whether sanguineous, sebaceous, serous, or puriform.
4. The remedy should act directly without injury to surrounding parts.

To fulfill these requirements we have (a) emplastra, plaster; (b) unguenta, salves; (c) tincturæ, tinctures; (d) dry powders, (e) alcoholic and ethereal solutions, (f) oleo-palminates.

Of the local remedies the more recent ones, are salicylic acid, goa or aroba powder, chrysaorbin, chrysophanic acid (Balmanno Squire) pyrogalllic acid (Jarisch) and naphthol, (Kaposi.)

Tilbury Fox, uses, goa powder formed into a paste with water applied to psoriatic patches and retained in position with collodion.

Sesseemann, employs, chrysophanic acid, 6 grammes to collodion 4 grammes.

Pick, recommends chrysorobin gelatin of different strength, and applies glycerine over the gelatine after application.

Unne, proposes chrysarobin plaster.

Mulle, ointment of chrysophanic acid and

spread on muslin but as the writer states all these methods will often produce, dryness, irritation, pain and tenderness, therefore are impracticable.

Dr. Kohn, uses a solution which he terms traumaticin, as:

R Refined gutta-percha, part one, chloroform parts ten, the following advantages are claimed for it. It forms a thinner and more delicate covering than collodion or gelatin, causing neither tension or pain. Traumaticin, is of itself a neutral covering and protective remedy. Ten per cent solutions, when applied to large surfaces do not cause irritation, besides it produces more uniform pressure than colodion, glycerine or gelatine. The writer has treated a number of cases of psoriasis, and obstinate chronic eczema substantially as follows; In most cases there were present either a debilitated constitution, gouty diathesis, anemia, nerve asthenia, etc. Particular attention was paid to each constitutional discrasia. For the removal of waste, toxic debris, and for derivative effects eliminants, *locally*, after removal of crusts, scabs etc., an alkaline lotion was thoroughly applied, causing saponification of the sebaceous material and inducing an alkaline excretion, preparatory to osmosis and absorption:

R Soda bicarb, $\mathfrak{z}\text{i}$ 4 gram.
Potassic hydrate, $\mathfrak{z}\text{ss}$ 2 "
Aqua pura, Oj 128 "

M. S. Apply thoroughly at night.

The following ointments have answered admirably in the writers experience.

R Pulv. camphor, $\mathfrak{z}\text{i}$ 4 gram
Chloroform, q \mathfrak{s} ft sol.
Acid chrysophanic, gr xx—1.320
Pulv. opii, $\mathfrak{z}\text{ss}$ —2.000
Cosmoline, $\mathfrak{z}\text{i}$ —30.000

M. S. Apply freely after using alkaline lotion. or

R Pulv. Camphor, $\mathfrak{z}\text{i}$ —4.000
Chloroform, q.s. ft. sol.
Acidi Tannici, gr xx—1.320
Pulv. opii, $\mathfrak{z}\text{ss}$ —2.000
Cosmoline vel. vase-line $\mathfrak{z}\text{i}$ —30.000

M. S. As above.

Chloroformic solutions are clean and efficient. *Thus.*

R Camphor, $\mathfrak{z}\text{ii}$ —8.000
Acidi chrysophanic, $\mathfrak{z}\text{ss}$ —3.000
Tr. opii, $\mathfrak{z}\text{ss}$ —16.000
Chloroform, $\mathfrak{z}\text{i}$ —32.000
Alcohol, q.s. ad. $\mathfrak{z}\text{ii}$ q.s. ad. 64.000

M. S. Apply with a soft sponge.

R Camphor $\mathfrak{z}\text{ii}$ —8.000
Acidi carbolici, $\mathfrak{z}\text{ss}$ —2.000
Tr. opii, $\mathfrak{z}\text{ss}$ —16.000
Chloroform, $\mathfrak{z}\text{i}$ —32.000
Spt. vin. rect.
q.s. ad. $\mathfrak{z}\text{ii}$ q.s. ad.—64.000

M. S. Apply with a soft sponge after bathing with the alkaline lotion.

The writer has also tried the "Liquid gutta percha" vehicle for chrysorobin, tannic and carbolic acids, which he stated is very efficient.

The remaining pages consisted in general remarks, formulæ, among the number we select the following for neuralgia of the fifth hemicrania cephalalgia etc., which he stated acts charmingly. The acid is added to more readily diffuse the remedy when applied, and promote more readily and quickly absorption.

R Menthol, $\mathfrak{z}\text{j}$
Morphiæ sulph., grs. iij
Tr. aconite radicis, $\mathfrak{z}\text{ij}$ —iij
Chloroformis $\mathfrak{z}\text{ij}$
Spts. camph., $\mathfrak{z}\text{ij}$
Acid phosp., dil., gtt xx

M. S. Apply locally.

In neuralgia which is symptomatic of some pathological condition, the cause should be sought for and removed if possible, in order to establish a permanent cure.

DISCUSSION.

DR. C. E. WEBSTER inquired of the reader what his experience had been in using the oleates to act on fatty substances, on the same principle that acids are used to favor absorption. And why can they not both be used simultaneously, in order to gain time in treating these cases?

DR. H. J. REYNOLDS thought the paper to be a scientific one, and that the writer's worthy effort in producing it was meritorious. Over taxation of some of the organs, resulting from a deficiency of action of other organs and insufficient action of the skin, is a cause of some forms of these eruptive disorders. Some will prevail mostly during the cold season, as psoriasis, others are more prevalent in hot weather. The great aim in treatment is to perfect the equilibrium of action of the skin and other organs. We rely too much on specific internal medication, and in this physicians are often defeated; although mercury, iodine, quinine and arsenic will doubtless enter largely into the treatment of this class of our patients. But the external causes and the digestive tract will require to be carefully looked af-

ter. Another agent whose value is frequently underestimated is electricity. Nothing meets the indications better in many cases.

DR. C. W. EARLE inquired of the writer or of any of the members if chrysophanic acid, grs. xx to 3j, did not cause an erythematous condition of the surrounding integument. Does this arise from using the remedy in any strength, or only from a strong solution?

DR. JENSEN replied that his experience in using the oleates had not been so large as that in using the acids. Yet he had used the oleates of zinc, mercury and copper, and found them very efficient, easily absorbed, neat, and easy to apply.

Irritation from using chrysophanic acid will occur, but adding opium or bismuth to the preparation will prevent this to a considerable extent.

DR. REYNOLDS stated that he thought that chrysophanic acid was more apt to cause the symptoms alluded to when used at the same time that arsenic is given internally. The erythema was of a mild, inflammatory type, analogous to that which arsenic will produce in the mucous membrane of the stomach if given in too large doses or prolonged for too great a length of time.

This was followed by a paper on *Infant Feeding and Summer Diseases of Children*, by C. W. Earle, M.D., Which being an adjunct of the cholera discussion of the previous meeting, was very interesting.

The conclusions, as summed up in the paper, are:

1. The most frequent infantile disease in the city during the summer months is enterocolitis.

2. Excluding the causes of infant mortality largely beyond our control, improper feeding is one of the causes of the great number of deaths among this class.

3. Mothers should nurse their children; in lieu of this a wet nurse should be procured. If this is impossible a mixed diet should be resorted to.

4. Artificial foods containing a considerable amount of casein are found to be a cause of indigestion and summer disease.

5. In many cases cows' milk diluted with water does not seem to agree with the children. Barley water or rice water as the diluent seems to make a more physiological food.

6. Condensed milk seems to agree with

a considerable number of children; but in many cases a sufficient quantity is not given to nourish a child. Used in sufficient quantities, and diluted with rice or barley water, it is without doubt one of the best of artificial foods.

7. Cream, mutton-broth, and white of eggs are valuable adjuncts to the dieting of children.

8. Whatever the artificial food the child is having, the physician should examine it frequently for evidence that it is a proper food as regards quality and quantity. The normal elevation of the fontanelles and the increasing weight are among the conditions denoting a satisfactory and favorable nutrition.

This paper was thoroughly discussed by Drs. J. S. Knox, F. E. Waxham, D. M. Tucker, E. F. Gaston, Jahn Bartlett, J. E. Walton, J. J. M. Angear, C. E. Webster, G. C. Paoli, J. H. Etheridge and F. E. Martin.

A paper on

A Theory of Cholera, or Two Theories of the Mode of Advance of Cholera,

Was read by DR. JOHN BARTLETT. The illustrations made use of were the "army worm," and the "marsh fungus," both of which have been successfully studied in the field by him.

The writer has also had ample experience with Asiatic cholera, and is an advocate of the germ theory.

But space precludes giving an abstract of the paper, which is an extensive one.

LISTON H. MONTGOMERY, M.D.,

Secretary.

A QUERY.

Editors Lancet and Clinic:

Can you make room in your valuable journal for the following scientific query? It may have some remote connection with medicine. As the aqueous vapor in the earth's atmosphere is very variable in quantity, may not the cause of glacial periods be accounted for on the supposition of this vapor being reduced at certain epochs to a minimum and the earth, in its journeyings through stellar space, subjected to its overpowering refrigerating influence?

Yours truly, D. H. JAMES, M.D.
Aurora, Ind., Aug. 14, 1884.

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Cincinnati, August 30, 1884.

The Week.

THE New York Board of Health has appointed a corps of fifty physicians for service in the tenement house districts during the summer.

ERRATA.—On page 214, issue of August 23d, 6th paragraph of Comments, second line, the words, "*they do in this country*," should conclude the paragraph.

THE ACADEMY OF MEDICINE will resume its weekly meetings, Monday evening, September 1st, at which time Dr. J. L. Cleveland will read an essay on an interesting subject.

A full attendance is requested.

A PRACTICE THAT SHOULD BECOME CONTAGIOUS.—The model "grateful patient" is the London art dealer, Mr. King, who at his death left half a million dollars to St. George's Hospital, and more than half a million dollars to his medical adviser, Dr. Roper.

QUININE STEADILY FALLING.—Among the manufacturers of quinine the news of the suspension of the Bohringers, the great Italian producers, coupled with the

suspension lately of C. J. Meier, of London, produced but little effect. The price of the article has steadily tended downward since the removal of the tariff, and sales were made as low as one dollar per ounce, the lowest for years. Since the forests in Peru became less ready of access, causing the experiment of the planting on a large scale in Ceylon and Java, the production steadily increased, and now, according to the judgment of the largest manufacturers in the trade here, the supply manufactured largely exceeds the demand.

The trees, when planted, yield their bark within four or five years, and, unlike the native trees in Peru do not become exhausted, but the bark is taken from them year after year. The quality of the article from the cultivated tree is far superior to that produced from the wild trees. Moreover the Peruvian forests have become, to a certain extent, exhausted by the indiscriminate robbery of the trees wherever found, and the sources of supply have become so remote from the sea coast that the cost of transportation has risen so much as to almost drive the native article out of the market. In fact, the name peruvian bark will soon become a misnomer. Had the experiment of the planting in the East not been tried, and had the world been left dependent for its supplies on the Peruvian forests, the price of quinine, it is estimated, would now not be less than five dollars an ounce.

The World's production to-day is estimated at 4,500,000 ounces, of which Germany and Italy manufacture by far the greater portion. There is considerable made in England, but this is of a superior quality, and its enhanced cost limits its consumption and consequent production.

America consumes forty per cent of the total production, or about 1,800,000 ounce. Prior to the removal of the tariff 1,500,000 ounces were produced here, but the effect of the removal of the duty has been to decrease the manufacture, and make the United States more dependent upon foreign supplies.

It is estimated that now not more than 1,000,000 ounces are manufactured in the New World, but this is in part due to the destruction by fire in Philadelphia of the largest American producers, who now send their bark to Europe to be prepared for the market.

From the East Indies the shipment of the raw material to the United States were over 6,000,000 pounds, of which a very large proportion was shipped to Europe for account of the American manufacturers. Of late years the quality of the product has materially improved, the quinine now sold having not more than from two to five per cent of the lower alkaloids, while it is but a short time since that quinine having 10 per cent of these was deemed a satisfactory article. This improvement is believed to be due entirely to the better quality of bark obtained from the cultivated tree.

There have been attempts made to replace quinine with other articles of a similar nature, and for a time what is called synthetic quinine was produced in large quantities. With the development of the industry in the East and the consequent reduction in the raw material, this manufacture has now almost entirely ceased. A prominent New York manufacturer said yesterday:

"The removal of the tariff has little or nothing to do with the demoralization in the trade. All the trouble is caused by overproduction, while the demand has remained constant. I can not see that there is any more consumed now than during the past five years, and the only effect of taking off the duty has been to remove the work done from the United States to Europe. The manufacturers there have dumped on the United States all their surplus product in the hope of finding a market, and we could not absorb it, the price has naturally gone down. Those who produced most have lost most, and at present I can see no sign of relief. In fact, the outlook for quinine is as bad as well can be, except to the consumer."—*New York Times*.

GUARANA.—This substance is a rude heterogeneous mixture. Neither the ingredients nor their proportions have ever been known with any useful degree of accuracy, and it is only known that they vary largely, not only from time to time, but in different rolls of every single package ever met with in the markets; and, probably, one reason why the composition has never been known is that it is not constant.

It is made in the country of the Guaranis, a large tribe of South American Indians; and it is highly probable that differ-

ent parts of the tribe make it in different ways. From the known habits of such people, and the traditions of how they make all such mixtures as this, it is hardly probable that it can be even roughly accurate to any formula, or that it can be cleanly or wholesome; and certainly, and one who investigates it much, as the writer has done of late, will get odors and reactions that will remind him of what he has read of the medicaments of savages, both of ancient and modern times. The Guaranis seem to have been cunning enough to have kept the secret of this mixture very well.

Thirty years ago, when the writer was in Brazil, guarana was met with chiefly made rudely into the forms of ducks, lizards, and other things familiar to the Guaranis. It was not then used, much and the texture was very different from what it now is, being more homogeneous, and more resembling cocoa or chocolate in appearance, taste and odor. It has always been said to consist largely of the seed of *Paulinia sobilis*, and fragments of this seed have been identified in the pieces, but there are evidently many other ingredients, while the mass consist largely of starch.

How such a substance can ever have been so largely accepted in the materia medica, can hardly be accounted for on any other basis than that of fashion. It had only been a very short time in use, on the statement of travelers and enthusiasts, when it was found to contain a large proportion of caffeine, and this caffeine was traced to the seeds of *Paulinia*, and these were, doubtless justly supposed to be the active medicinal agent. As a natural result of this, an effort was made to get the seeds for use, so as to be able to discard the guarana. But throughout many years past the efforts to get these seeds in any larger quantity than small sample parcels, have been fruitless. The writer and others have repeatedly sent out orders without limitation of price, both directly to native houses, and though large importers, but the universal reply was that those who collected them would not sell them. The inference is that they made more money on them by using them as an ingredient in guarana, and they were astute enough to see that if they sold the seed the demand for guarana would soon fall off; and this inference is the chief if not the only indication that they are the principal, if not the only ingredient of value in guarana.

The time will probably come when these seeds will be obtainable, and as they contain much more caffeine than any ordinary source of this principle, they will be a valuable acquisition to the materia medica. If there should occur any possibility of monopolizing them, even for a moderate length of time, some enterprising, money-making firm may be depended on to take advantage of it.

During the past year the drug has become increasingly scarce and dear, until it now sells, as fast as it can be obtained, at about \$3.50 per pound by the package in first hands and for any proper use of it at least one-fourth of the rolls have to be rejected. This makes it so very dear in proportion to its real therapeutic value that it seems now high time to reject it, and look for a substitute, especially in consideration of the fact that as an heterogeneous mixture of unknown composition, secretly made by half savages, it never should have been accepted. The scarcity of it now is reported to be in consequence of its having become fashionable as the basis of a drink, probably fermented, among some half civilized South American races.

Its principal use in medicine has been in the form of a fluid extract, and within the past ten years the writer has had a constantly increasing demand for it up to the present time; but, from the consideration above mentioned, he abandons it altogether and dismisses it from his list, substituting for it a fluid extract of green or unroasted coffee, for all those who may desire a substitute.

As caffeine has always been the generally recognized active principal of guarana, it was important to know how much caffeine it contained; therefore a good specimen of guarana and the fluid extract of well selected guarana were both assayed by the following process,—the process being adopted after many trials of other processes which were less successful in the writers hands.

Ten grammes of powdered guarana and two grammes of caustic magnesia are mixed with 100 c. c. of water, and the mixture boiled for five minutes, the result being a consistent paste from the amount of starch present. Add to this paste while hot 50 c. c. of strong alcohol, stir thoroughly, and having transferred the whole to a filter drain off the liquid and percolate the residue with a mixture of 60 c. c. of water and 40 of alcohol. Boil the residue a

second time with 100 c. c. of the same mixture of alcohol and water, and again drain and percolate it until exhausted, or until the total liquid amounts to 300 or 350 c. c. Evaporate this on a water-bath to about 20 c. c., and transfer it to a vial or flask, rinsing the last portion in with a little water. Add to it 25 c. c., of chloroform, agitate the mixture vigorously, allow it to separate and draw off the chloroform solution into a tared capsule. This separation of the liquids is best effected by shaking them in a separating flask of a conical shape furnished with a stop-cock at the lower, small extremity, but if such a thing be not at hand, the separation can be conveniently effected by having a duplicate cork for the flask or vial in which the shaking is done. This cork is perforated with two small glass tubes, one of which reaches nearly to the bottom of the flask, and projects about half an inch outside. Both tubes are stopped outside, preferably by short pieces of rubber tubing and pinch-cocks. Thus arranged, and the liquid having been allowed time to separate perfectly, the mounted cork is put in the place of the one used during the shaking, and the flask is gently inverted and placed in a convenient holder or stand. Allowing a few moments for the re-settlement of the liquids, the tared capsule is placed under the exit tube, and the rubber tube is dextrously slipped off without the loss of any of the chloroform solution. Then by loosening the pinchcock on the tube for the admission of air, and compressing the rubber tubing with the finger and thumb, air may be gently admitted until all the chloroform solution has run into the capsule. The flask is then turned up,—the cork exchanged,—25 c. c. more chloroform added, and the shaking and separating repeated. This chloroform washing is repeated a third time, and if great accuracy be desired, a fourth time. The chloroform solution is then evaporated to dryness, when it leaves the caffeine white and nearly pure. In one assay the four chloroform washings were evaporated in separated tared capsules, and gave respectively .440, .037, .005 and .001 gramme. Total .483 gramme, equal to 4.83 p. c., of caffeine. If further purification of the caffeine be desired, it may be done in the way mentioned in the assay of tea.

Although the individual trying these substances physiologically is not fastidious, it

required a good deal of courage to swallow preparations of such a mixture as guarana; nevertheless it was carefully tried, and it was found to require just about a fluid-drachm to give the effect of three grains of caffeine—three drachms coca, or seventy grains of tea. Now a fluid-drachm of a fluid extract contains 4.3 p. c. caffeine would contain 2.58 grains of caffeine in its natural condition of guarana—if it be in its natural condition there,—it is equivalent in effect to 3 grains of extracted and purified caffeine artificially prepared.

In abandoning this substance the writer proposes to substitute for it a fluid extract of green or unroasted coffee.—*Squibbs Ephemertis*.

BACILLUS CULTURE.—In his lately published report to the Local Government Board on the "Relations of Septic to Pathogenic Organisms," Dr. Klein gives us ample material for reflection on this subject generally. The practical outcome of this paper is to throw doubt on M. Pasteur's statement that a culture of bacillus anthracis which has become inactive on sheep always yields farther cultures, which, although full of the typical anthrax bacilli, are, nevertheless, no longer pathogenic. By a series of experiments Dr. Klein claims to have proved that there is no evidence whatever that a harmless micro-organism can be changed into a harmful one or vice versa, and he believes that pathogenic bacteria are virulent ab initio. The experiments which have led him to this conclusion are given in detail, and are well worthy the perusal of all who would form clear ideas on this subject.

The fact of the cultivated bacillus affecting different species of animals in various ways Dr. Klein attributes to varying conditions of growth. High temperatures or a different soil or other conditions may cause the bacilli, although remaining themselves the same, as can be experimentally shown, "to embody or appropriate, chemically or otherwise, some new or different substance, which produces the alteration for a particular species of animals." If Dr. Klein's experiments are to be regarded as having satisfactorily contradicted those of M. Pasteur with respect to the attenuation of the anthrax virus, their practical influence, even though exerted in a negative direction, can not fail to be very great. For it is on his results with the anthrax poison that M.

Pasteur has built his hopes, and those of so many others, for the day of preventive inoculation against many of the infective diseases of mankind.

Dr. Klein completely denies Buchner's statement that the hay bacillus can be transformed by various cultivations into the anthrax bacillus, and that the latter may be made to assume the harmless properties of the former, supporting his denial by detailed experiments, and showing apparently good reasons, from his own experience, for believing that in Buchner's observations the culture of hay bacillus must have been accidentally contaminated by anthrax spores.

One more important observation is made by Dr. Klein touching the method of cultivation of the bacilli, which, as much as anything else in his suggestive and valuable paper, serves to point the moral with which the present article begins. He argues that the culture of bacilli on solid material, rich in gelatine, does not exclude the possibility or even, in some cases the probability of some poisonous material being retained, arising from the original source, and apart from the organisms themselves. In some instances he gives ample evidence that this is probably the case.

It would seem from these considerations that there is good reason for medical men to hesitate at present in the formulation of their creeds and doctrines in the matter of the ætiology of infectious diseases, for when men like Klein and Pasteur and Buchner and many others, are at variance at the outset of inquiry it is puerile for the most practical physicians to try conclusions with one another.—*London Med. Times*.

COPPER AND CHOLERA.—M. Burq has renewed his advocacy of copper by writing a note which was presented to the French Académie des Sciences at a recent meeting by M. Bouley (*Gaz. Hebdomadaire de Méd. et de Chir.*). The note contains the following propositions:

1. Persons imbued with copper by working with the metal daily have always been exempt from cholera, with very rare exceptions.

2. Numerous experiments in certain hospital services have demonstrated that the free use of copper is sovereign against the cramps and other nervous phenomena peculiar to cholera.

3. Dr. Lisle's cases (twenty-five cures in thirty-two cases), Dr. Pellarin's, Dr. Arnal's,

Dr. Blondet's, Dr. Berger's, and those of others, as well as M. Burq's own experiments made at the Hotel Dieu in 1866, in conjunction with M. Horteloup, showed that the salts of copper, administered freely by the mouth and by the rectum, and by the endermic method in the gravest cases, were the remedy *par excellence* for cholera. Of sixty-six known cases of confirmed cholera, eighteen of which were treated at the Hotel Dieu, in which the absorption of the remedy was still possible, there were fifty-five recoveries.

At a meeting of the Société de Biologie, M. Bochefontaine submitted a letter from Dr. Muston, of Monthéliard, contradicting certain of M. Burq's assertions relative to cupric immunity from cholera, and stating that the workmen of Beaucourt, composing nearly the whole of the population, all work in copper, brass, iron, and steel, and that they were decimated by the epidemic of 1854, although they were the very workmen that M. Burq has declared were preserved from the disease.—*N. Y. Medical Journal*.

BORAX AS A PREVENTIVE OF CHOLERA.

At a recent meeting of the French Académie des Sciences, M. deCyon called attention anew to the antiseptic properties of borax, and to the fact that it was so harmless that it could be taken into the system in quantities as great as fifteen grammes (nearly half an ounce) daily without giving rise to the least trouble, as he had announced so long ago as 1878. Since that time his confidence has but increased in the excellent qualities of the drug in all parasitic or microbic affections, and notably as a powerful preservative against cholera. Its efficiency, he says, is shown by the fact that during past epidemics of cholera the workmen employed in manufactories of boric acid have always been spared, although the neighboring population were killed in the proportion of one-third, as at Lordevello, in Italy, for instance, in 1864-'65. Taken in doses of five or six grammes daily, borax not only has a direct action on the microbes contained in the intestinal canal, but, passing into the blood, it is capable of reaching the bacilli which have gained access to that fluid. In cholera times the constipating action of the biborate of sodium is an additional argument in its favor. The author advises washing the surface of the body and the

external mucous membranes with a solution of boric acid or of borax, and mixing the latter with the food and drink to the extent of ten grammes in twenty-four hours.—*N. Y. Med. Journal*.

EDUCATION OF INCURABLE DEAF CHILDREN.—(Dolby: *British Medical Journal*, July 12). There are a number of diseases which induce complete or partial and irremediable loss of hearing; and if the accident occur to a child before the age of seven or eight years in the ordinary course of events, the child becomes dumb. The explanation is that, in whatever degree young children reflect, their thoughts are seldom formed to themselves with words. They depend for their thoughts so exclusively upon their immediate surroundings, that the relation of subjects and acts to the words which denote them soon become dimmed and lost to them if they do not hear these words repeated. When a child has become suddenly deaf, he does not at once lose the facility of denoting objects by words, but the words are generally clipped and spoken with increased indistinctness as time goes on, until they become absolutely lost. The plan of education is as follows:

1. A child who has entirely lost hearing and can read, should be made to read several times a day, and taught lip-reading. The constant repetition of the words which it has already used will cause them to be retained by reading.

2. A child who has become totally deaf and cannot read, should at once be taught on the pure oral system, and words which it could pronounce will, by constant repetition, be retained.

3. If a child can understand words pronounced in its ear—still better, if it can hear a raised voice—it can be taught to articulate new words by making use of the hearing. Its articulation, while becoming deficient, can be corrected, and efforts in this direction, added to lip-reading, will enable it to retain its speech.—*Archives of Pediatrics*.

MINERAL WATERS IN TIMES OF EPIDEMICS. — A recent number of *Le Progrès Médical* calls attention to the value of the so-called table waters as substitutes for ordinary river or well supply during epidemics. It calls attention to the fact that only the natural water will be safe, as ther e

is no guarantee that the artificial will be prepared from pure water. It has also been thought that boiled water will be safe, but this can not be absolutely stated, besides, boiled water, unless properly re-aerified, is very unpalatable.

Of course, if natural waters are employed it will be necessary to choose such as are rather neutral in character, strongly alkaline, purgative or acid waters not being advisable for general and continued use. It happens, however, in this country at least there are a great many waters the medicinal virtues of which are decidedly indefinite, their only merit is in their general purity, and such might serve very well in case of epidemic.—*The Polyclinic*.

MINNESOTA MEDICAL PRACTICE ACT.—The Supreme Court of the State of Minnesota recently decided that the Medical Practice act is constitutional, and that the Board of Medical Examiners has power to refuse a license to practice to any person on the ground of unprofessional conduct or incompetency. It also has the power to revoke any license already granted, provided the holder is guilty of unprofessional or felonious conduct.

This decision of the Supreme Court of Minnesota sustains and strengthens the recent decisions of the Supreme Court of Illinois. If the good work goes on there will soon be no resting place for medical quacks and incompetents.

Now that a decision has been had, the Board intend taking more vigorous steps and there will, probably, be heard a "squawk" all along the line of human vampires.—*Northwestern Lancet*.

PEYRUSSON ON THE TREATMENT OF CHOLERA BY BORACIC ACID.—M. Peyrussou recommends (*Lyon Medical*, Nov 31, 1884), the administration of one large dose of boracic acid; 30 grammes taken in water or wafers would probably not cause any danger, as the absorption by the mucus membrane of the intestines is markedly diminished in cholera. The acid acts, in Dr. Peyrussou's opinion, by killing the microorganisms contained in the intestines.—*British Medical Journal*.

JUDGE MILLER, of the United States Supreme Court, in a recent decision holds that the legislature of a State can not, by contract with an individual or corporation,

restrain, diminish, or surrender its power to enact laws for the protection of the public health.

Abstracts.

OPHTHALMOLOGY, ETC.

[PREPARED BY DR. DAVID DEBECK.]

THE JEQUIRITY QUESTION (Continued).—DE WEACKER contributes (*Archives of Ophth.*, June, 1884,) a second communication on this subject. This is mainly taken up with meeting some rather unfavorable views which Knapp had published in the previous number of this journal. (These communications are noticed in the LANCET AND CLINIC, Nos. 1 and 2 of the current volume.) De Wecker first points out the now well known and very characteristic ophthalmia which is produced by this remedy. He finds that the remedy applied to a healthy conjunctiva is never followed by blenorrhœa. This he has found true in over one thousand cases where he applied the remedy in uncomplicated corneal troubles. He urges that in Knapp's case where a purulent ophthalmia occurred in three days, upon the shedding of the membranes, and the other eye became inoculated, that a pure jequirity ophthalmia had not been produced, because in this the membranes are never entirely cast off on the third day, and all experiments prove the impossibility of transmitting the jequirity ophthalmia by inoculation from an affected eye to an unaffected one.

He then reiterates his caution as regards the application of jequirity in cases where any discharge is present, and reaffirms his belief in the benign character of this ophthalmia in old, chronic cases with dry, cicatricial conjunctiva.

He also opposes Knapp's conclusion that the cure of trachoma by jequirity is always accompanied by atrophy and cicatrization of the conjunctiva. He has arrived at diametrically opposite conclusions. He believes that the jequirity ophthalmia not only produces the least amount of scar tissue, but also favorably affects that which had previously existed.

He is satisfied with the results which two years of trial have given us: the banishing of the barbarous method of inoculating with blenorragic pus from ophthalmology, and the proof that we can cure the most obstinate case of trachoma.

KNAPP reports at greater length the two cases referred to in his former communication. One in which a purulent conjunctivitis ensued, but was successfully combated and the patient was discharged with normal vision. The other, a most lamentable case, was received with $V=\frac{1}{16}$. The jequirity application was followed by a diphtheritic infiltration, the corneæ became involved, both ulcerated and perforated, and the patient was transferred from the hospital to the blind asylum.

These cases, however, according to Knapp, belonged distinctly to the class of cases in which jequirity is indicated, with our present knowledge.

MEMBRANOUS AND DIPHTHERITIC CONJUNCTIVITIS.—Dr. A. A. Hubbell reports (*Buffalo Med. and Surg. Jour.*, Aug., 1884) two interesting cases. One a case of membranous or croupous conjunctivitis, and the other a case of diphtheritic conjunctivitis. These cases are interesting on account of their rarity in this country, but more particularly as regards the excellent results of the treatment used. Boracic acid, ten grains to the ounce, was employed. Compresses moistened in this solution were kept constantly applied to the eyes, and instillations of the same solution were made at intervals of half an hour. The first case was discharged in eight, the second in ten days.

If such results can be obtained as a rule, a great advance has been made in managing these intractable cases.

TOBACCO AMBLYOPIA.—That the excessive use of tobacco has an injurious influence on sight has been amply demonstrated. Dr. Charles Shears contributes a very able article on the subject in the *British Med. Jour.*, in which he formulates the following conclusions:

(a) Atrophy of the optic nerves is very rarely met with as the result of excessive smoking.

(b) Tobacco is the essential agent in producing the failure of sight.

(c) Great moderation in smoking, and especially the employment of mild forms of tobacco is all that is necessary to insure recovery.

In the great majority of cases no diminution in the peripheral field of vision was found. In twelve only were careful observations made with regard to a central

defect in the visual field, and of these twelve, six cases were found having well marked "central sarcomata." — *Med. and Surg. Reporter.*

BORO-GLYCERIDE IN AURAL DISEASE.—Dr. Brandeis (*Archives of Otolaryngology*, vol. xiii.) gives his experience in the use of boro-glyceride in aural affections. In cases of otorrhœa he uses a solution ranging from 10 to 50 per cent. beginning with the more concentrated solutions, and diminishing their strength as the mucous membrane assumes a healthier condition. For granulations equal parts of a 50 per cent. solution of boro-glyceride and an 85 per cent. solution of alcohol are mixed, and applied in the usual manner. As an artificial drumhead a solution of seventy-five parts of boro-glyceride and twenty-five parts of glycerine was employed. This is a viscid fluid, and becomes adherent to the remnant of the membrane. To keep it in position, a thin layer of collodion is coated over it. This remained in action from three to ten days, when the same procedure was repeated. Dr. Brandeis recommends the preparation as useful in all three cases. — *The Practitioner.*

Selections.

MEDICINE.

THE USE OF ARSENIC IN PULMONARY TUBERCULOSIS.—According to the *Centralblatt für Clinische Medicin*, Stintzing has tried the arsenic treatment at von Ziemssen's clinic in sixteen cases, two of which have proved fatal. In one of these cases the drug could be employed only for eleven days, and in the other only for three weeks. In but four cases was there any noticeable lowering of the temperature; in eight it was entirely unaffected; and in one case the drug even seemed to raise it. In three cases there had been no fever. In only one instance was there any diminution of the dyspnoea, of the cough, or of the expectoration. The frequency of the pulse was maintained in four cases, increased in six, and decreased in two. Nutrition was not increased in a single instance; the weight of the body remained the same in two cases, and sank in nine, while two cases of apparent gain were accounted for by a highly dropsical condition. In no case was there a subsidence

of the local processes in the lungs, but in eleven they advanced notably. The breathing capacity was repeatedly measured in twelve cases; four of the patients improved a little in this respect, but this did not seem very certain, for, on account of the patient's awkwardness, the early measurements were thought to have been too low; in two cases the capacity remained the same; and in six it was evidently diminished. The number of bacilli found was unaffected in seven cases, and increased in three; in only one was it diminished, and that several weeks after the use of the remedy had been discontinued.—*N. Y. Med. Journal*.

A SIMPLE REMEDY IN DIARRHŒA.—In the late summer and autumn, when fruit is so abundant, any simple remedy for the diarrhœa, and what is familiarly called "bowel complaint," is worth knowing and remembering. Such a one was recommended by Dr. T. E. Stellwagen several years ago in his edition of Coldman's "Dental Surgery," and more recently in the pages of one of the journals. It is simply *vinegar*, preferable sound cider vinegar. The dose is about two ounces for an adult, and should be swallowed "neat" without admixture of water.

It may also be given to infants with excellent results. To a babe a year old a teaspoonful of moderately-diluted vinegar would be a proper dose.

Its effect is to check pain, tenesmus, and tormina at once, to relieve the chill and cramps when present, and to disseminate a feeling of warmth and comfort to the body.

Even in cases of chronic diarrhœa which have long resented treatment, this household remedy has succeeded in checking the discharges and correcting the sub-inflammatory condition of the membranes.

We shall be glad to report any experiences, favorable or otherwise, which our readers may have with this remedy.—*Medical and Surgical Reporter*.

RESORCIN AS AN ANODYNE.—When exposing the integument of frogs for a longer time to the influence of resorcin, Dr. Andeet (*Aerzt. Intllgbl.* 10, 1884,) noted a remarkable insensibility of the animal to all external, no matter how painful impressions.

This observation induced him to make a trial in the human being. The result was so satisfactory that he does not hesitate to

recommend the drug in all diseases of the mucous membrane associated with pain. So in chronic affections of the larynx, of the intestinal canal, the genital organs, and of the heart, and in colicky complaints of whatever nature, the remedy acted with the greatest promptness in subduing pain. He himself suffered from a painful trouble of the stomach and intestines as a sequela to typhoid.

Thé complaint did not yield to any drug; the pains always returned until he employed resorcin, which put a sudden stop to them. The dose of resorcin varied from 16 to 160 grains, or if administered in the form of clysmata, a 1-30 solution is to be recommended.—*Medical and Surgical Reporter*.

DISSEMINATED SCLEROSIS.—In a series of articles in recent numbers of the *Progrès Médicale*, M. Maeri has studied the relationship between disseminated sclerosis and the infectious diseases, of which typhoid fever is taken as the type. He considers it to be generally admitted that disseminated sclerosis is a vascular disease, and that it is due to arteritis, and he goes on to point out that arteritis is a frequent result of the infectious diseases, and that just such a scattered process as is typical of disseminated sclerosis. This disseminated arteritis appears often at a late stage of the primary ailment, or during convalescence, or even sometimes when the cure had seemed to be complete. Even when it appears at so remote a period, M. Marie believes that there is a causal relationship at work, and regards it as a late manifestation rather than a late complication of the typhoid fever or other disease on which it followed.

The final outcome of these papers is, that disseminated sclerosis is no longer to be ranked among diseases of the nervous system, but is to be regarded as the localization in the cerebro-spinal centres of the vascular determination of various general disorders, which seem to be always of an infectious nature. The author considers that these manifestations bear much the same relations to typhoid or other fevers that secondary or tertiary symptoms do to primary syphilis.—*London Med. Times*.

DIAGNOSIS OF MITRAL CONSTRICTION.—Simple mitral constriction is of far more frequent occurrence than is generally allowed, and its diagnosis probably presents more difficulties than any other serious les-

ion of the valves on the left side of the heart. We exclude from consideration cases complicated by regurgitation, because the latter, when advanced enough to produce grave symptoms, is easily detected, and the presence of constriction in such cases is not of practical importance. But when, as not rarely happens, the question be whether stenosis of the mitral orifice be present, and the cause of serious symptoms, or whether the heart be healthy, and the distress and danger due other conditions, accurate diagnosis becomes a matter of the utmost moment. In a typical case the observer feels a thrill at the apex preceding the impulse of the heart; he hears at the base a clear sound over the aortic valves, an exaggerated one at the left of the sternum, and at the apex a rolling presystolic murmur, gradually increasing in intensity and leading up to a short and sharp first sound, which is not followed by an appreciable second sound. A diagnosis of mitral stenosis under such circumstances admits of little doubt. But in a second series of cases both murmur and thrill may be absent, and the heart's action regular, and the difficulty of detecting the disease then becomes great. The most striking auscultatory phenomena are accentuation of the second sound at the base to the left of the sternum, and what is of much greater importance, a peculiar hesitation in the production of the first sound, a kind of hanging fire, which is easier to appreciate than to describe. Whatever be its origin, whether it be a faint sound caused by the blood passing through the constricted orifice into the ventricle, and so practically a murmur, or be due to a gradually beginning, though suddenly ending ventricular contraction, it is a phenomenon which at once strikes the ear and suggests the nature of the disease. In these and all other suspected cases of constriction of the mitral orifice, the detection, if possible, of increase in size of the left auricle and right side of the heart yields valuable corroborative evidence. In a third class of cases there may be no murmur, no thrill, no hesitating first sound, but extreme irregularity of the cardiac action, the beats being very frequent and very irregular both in rhythm and force; so much so that a great many of them produce no pulsation at the wrist. In some cases not half the beats of the heart are felt at the radial artery, so that the pulse there may be moderate in frequency, although the cardiac contraction may be exceedingly rapid.

Similar phenomena may likewise be observed in simple dilatation of the heart, with degeneration of its walls, such as occurs, for example, in chronic bronchitis and emphysema, but then the patient is usually past middle life. If grave cardiac symptoms be found in a comparatively young person, and if auscultation only reveal extreme irregularity in the heart's action, the presence of mitral stenosis ought to be at once suspected. The administration of digitalis in such cases not only often removes the patient's distress, and produces regularity and normal frequency of the heart's beats, but also facilitates diagnosis. For when the heart's action becomes slow and regular a presystolic murmur frequently makes its appearance. Finally, there are cases of considerable mitral constriction which produce no sufficiently well marked morbid phenomena to enable the observer to detect the presence of heart disease. But the pathologist not infrequently meets with these narrow orifices in the *post mortem* room in patients who have died from other diseases. The reflection is then forced upon him how severe some pathological conditions require to be before coming within range of our present power of diagnosis.—*Medical Times*.

THE ACTION OF THE INTERCOSTAL MUSCLES IN RESPIRATION.—M. Laborde, who is in charge of the physiological work of the Paris faculty, has been making some experiments upon the body of a criminal called Campi, who was guillotined in Paris, April 30. Having everything prepared for his purposes, the body was received at the laboratory, one hour and twenty minutes after the execution. The description of the experiments as given in the *Revue Scientifique* is very interesting; the blood from a dog being injected into the blood-vessels of the head, the filling of the capillaries and the blush upon the face, with certain fibrillary contractions are very well described. The muscular excitability was very much increased after the transfusion, and an opening being made through the cranium by means of the trephine, the condition of the brain *in situ* was studied with more interest, both in connection with the capillary supply to the pia mater which was admirably injected, and with reference to the views of M. Luys on the locomotion of the brain, which latter seemed to be in a measure confirmed by these observations.

Particular attention was paid to the study of the functions of the intercostal muscles, during respiration. The opportunity was a particularly good one, because the muscles were very well developed, and the muscular contractility was but little different from the normal condition. To render them very appreciable in their movements, the sternum was removed, then having laid bare the first five or six intercostal spaces, with their internal and external intercostal muscles, M. Laborde produced their isolated contractions by means of an interrupted current of moderate intensity.

1st. With the internal intercostal muscle each excitation and each muscular contraction caused invariably a depression of the superior portion towards the inferior. If the current was extended to several intercostal muscles at the same time, always restricted to the internal intercostals, a downward movement *en masse* of the side of the thorax was produced.

2d. With the external intercostal muscle the same excitation produced constantly with the muscular contraction which followed, an elevation of the inferior portion towards the superior, the latter being held motionless by a light pressure of the fingers. And when the side was made motionless as when the scaleni act physiologically, an isolated current was passed through several of the spaces at the same time and acting upon the external intercostals, there was a synergic elevation *en masse* of the side and of the thorax.

These results were produced a great number of times in the presence of several physiologists, among them Prof. Beclard, and even two hours after beginning the experiments the muscles still contracted very markedly. M. Laborde considers them as positively confirming the view that the internal intercostals are depressors of the walls of the thorax and consequently expirators; and that the external intercostals are elevators of the walls of the thorax and consequently inspirators.—*Journal of American Med. Association.*

RELATION OF MENTAL DISEASES TO ALIMENTARY DISORDERS. — Dr. Fränkel has revived some of the old views as to the special relations of diseases of the alimentary tract to melancholia and other mental disorders. Esquirol and Schroeder van der Kolk fully recognize this relationship, but since the days of Greisinger it has been

ignored. Besides the previously described lengthening, displacement, etc., of the colon, Fränkel has frequently noted in his cases irregularities in the position, etc., of the great omentum. These had apparently never been described by van der Kolk or other writers. Dr. Fränkel considers them to be of greater significance than the affections of the gut itself, inasmuch as adhesions and folding of the omentum must give rise to tension and pressure of the nerves contained in it. The peripheral irritation thus caused is acted on by the ganglion cells of the brain cortex any part of which may, in his opinion, be affected, thus causing psychoses. Twenty-five cases were tabulated in his paper, in six the omentum was rolled up and hidden behind the stomach and descending colon, the transverse colon was at the same time arched downward; in four the omentum was affected as above, but the length and position of the colon were normal; in seven the omentum was shortened; in two it was adherent to the parietal peritoneum; in two it was adherent to the pubic bone; in one both colon and omentum were displaced upward and to the left; in two the transverse colon was arched downward, but the omentum only slightly displaced; in one the transverse colon was S-shaped, and displaced upward and to the left, but the omentum covered the whole of the front of the abdomen. There were nine cases of general paralysis which exhibited during life either decided mental depression or only very slightly developed exaggerated delusions. The cases given extended over about four years, and occurred among fifty necropsies made during that period, about half of which were cases of general paralysis. He concluded that

First, Abnormal positions of the colon and great omentum may cause a psychosis or unfavorably influence one which already exists.

Second, Percussion of the abdomen is useful in the diagnosis of this condition.

Third, Cold, wet compresses to the abdomen are frequently of use in the treatment.

It must be obvious that Dr. Fränkel has mistaken in most of his cases, effect for cause. Dr. Pons reports the case of a patient aged 53, who was violent and excitable, all of which symptoms disappeared on the expulsion of a tænia. At one time cases of insanity cured by replacing a re-

troverted womb, were frequent. All of these cases of so-called reflex insanity are now being looked on with suspicion. In the majority of cases the diagnosis of recovery from insanity were made by physicians who were laymenlike in their knowledge of psychiatry, or were doctrinaires.

LUPUS VULGARIS—ITS TREATMENT BY THE LOCAL APPLICATION OF SULPHUROUS ACID.—Mr. Jonathan Hutchinson, in a paper recently read before the medical society, urges that the term "lupus" should not be employed in its present restricted sense, but that it ought to have a wider signification, and be made to include a whole group of diseases possessing natural and close affinities.

Mr. Hutchinson also considers that the definition of this term should be a clinical one, and supports this view with considerable power, and with his rich store of practical knowledge.

Yet it is not by a pathological light, rather than by a clinical investigation that we have ascertained the links in connection between the several types of lupus.

In the present immature state of our knowledge of the true nature of this disease, would it not be better to accept a pathological definition, perhaps the following: A new growth of the skin or mucous membranes, accompanied by active congestion, and followed by exfoliation, degeneration, and interstitial absorption or ulceration, and terminating in scar-formations. Now, although for the sake of pathological accuracy this definition is made to include mucous membranes, it is most important to bear in mind that these tissues are never primarily affected, but always become implicated by extension.

I cannot help laying great stress upon the significance of this latter point, as of much diagnostic value in discriminating between true lupus and certain of its so-called allies, more especially those associated with tertiary syphilis; and as a most interesting illustration of this point, I may be permitted to cite the following case:

Margaret A., aged twenty-five years, was brought under my notice in March last by a medical friend, who supposed her to be suffering from lupus vulgaris.

In this case there had been extensive and deep ulceration of the nostrils, lips (the upper one being almost entirely destroyed), cheeks, and forehead, where

the left margin of the ulcerated surface was very considerably thickened, and covered with rough congested skin. In addition there were swellings over the sternal end of the right clavicle and right acromio-clavicular joint; the former about the size of half a walnut, covered with thin congested skin, had some semi-fluid contents, and the latter, about twice as large, was excavated by ulceration similar to that on the forehead. There was also a large and irregular perforation of the palate.

Her family history was good; no indication of syphilis or lupus in any other member. Her parents were in a respectable position.

Feeling confident that the case was one of syphilis, we ordered large doses of iodide of potassium, with bark and ammonia. This treatment was followed by rapid subsidence of all lupoid action, and the patient gained rapidly in health and strength. At the present time, her deformities alone mark where the disease has been.

In this case, although we had a history of keratitis at the age of sixteen, four years before the disease had declared itself, we had nothing else particularly indicating the existence of syphilis but the mode of onset, the *spreading of the disease from a mucous to a cutaneous surface*.

My chief object, however, in obtruding myself upon the notice of the profession is to present what I must humbly consider to be one of the most successful methods of treatment yet brought to light for lupus vulgaris—the local employment of sulphurous acid to the ulcerated surface.

In nine cases treated by the local application of sulphurous acid, I am able to record five distinct cures, three in which great improvement was effected, but which, unfortunately, passed from my hands before a cure could be concluded, and only one in which a negative result was obtained, this last being under treatment for fourteen days.

And this form of treatment will, I am sure, be not the less acceptable because it is free from the usual modifications of cutting, bruising, burning, etc., now so generally resorted to, and consists simply and wholly in the employment of a slightly irritating application to the ulcerated surface of the disease.

Sulphurous acid has long been recognized as a valuable disinfectant and parasi-

ticide, and has been in frequent use for most of the local skin affections connected with the presence of living organisms. It has also been much advocated by various authorities for such general affections as tonsillitis, malignant sore throat (scarlatinal and laryngeal), diphtheria, croup, influenza, and chronic phthisis, locally applied, and internally administered, whilst in typhus and typhoid it is in great repute abroad, its advocates claiming that by its employment in large doses these fevers are diminished in both severity and duration.

Besides its germ-destroying influence, sulphurous acid also exerts a powerfully stimulating action when applied to the surface of open wounds, and I have particularly noticed its excellent effects upon certain indolent ulcers, which have resisted the influence of many other modes of treatment, including carbolic acid. In fact, my experience of its use in these particular cases compels me to consider that it is preferable to the latter in most forms of simple ulceration. It is far less irritating, and consequently may be employed where carbolic acid would certainly do harm. Its stimulating influence may account, then, to some extent, for its beneficial effect in lupus vulgaris. In gonorrhœa its effects, as an injection, are most happy, and I shall shortly publish the notes of one hundred and twenty cases of this disease treated by its local employment.

In the local employment of this remedial agent, it may be applied in the form of a lotion, or an oil, or in the gaseous state. This last-named modification is most useful when its application is required to parts distant from the respiratory organs, and can readily be obtained by burning sulphur in a jar or open-mouthed bottle, and allowing the rising fumes free contact with the surface to be treated. The frequency and duration of these fumigations will mainly depend upon the progress made during its employment, but, as a rule, two applications daily, each for about twenty minutes, will be found sufficient to produce the healing effect of the remedy.

The lotion is best obtained by the use of the pharmacopœial preparation of the acid, either alone, or diluted to relative strengths of one in two, one in three, or one in four; the last preparation is the weakest which should be employed. It is a clean and simple mode of application, and can be applied to any part of the face without

causing disagreeable effects, the great objection to its use being that it has to be constantly repeated, and evaporates much more quickly than when employed in the form of an oil.

This last-named method is my favorite form of applying the remedy. It is best made by dissolving the anhydrous acid (which may be procured at all druggists in the shape of a concentrated alcoholic solution) in castor or olive oil. I may state that I consider the former to be preferred as a vehicle, as it holds the acid in more complete solution, parts with it less readily and forms a more perfect covering to the surface of the wound. The anhydrous acid, mentioned in connection with the sulphurated oil, may also be employed proportionally diluted as a lotion.—Herbert Collier, *Medical Times and Gazette*.

THE FLUORIDES IN MEDICINE.—Dr. Waddell, the Resident Physician at Medical College Hospital, Calcutta, has recently published a paper on Fluoric Acid and the Fluorides, which merits careful consideration. From their corrosive action on glass, their use in practical medicine is not unattended with difficulties. They should be kept in either india-rubber vessels, or in glass bottles coated internally with wax. Hydrofluoric acid, if brought into contact with the skin, forms a hard, horny sheath, under cover of which it penetrates deeply until its energy is exhausted.

The fumes, if inhaled, provokes dyspnoea and spasmodic cough, and, if concentrated, may give rise to bronchial or laryngeal irritation. Fractional doses of the fluorides after a time impair the appetite, whilst larger doses induce nausea, and disorder the stomach. Nutrition is impaired; and this atonic condition is accompanied by the loss of body-weight.

The amount of urea eliminated is notably increased. Experimental observations have shown that the alkaline fluorides profoundly modify the composition of the blood, producing a condition of anæmia, the essential characteristic of which is, that the red corpuscles suffer a decrease out of all proportion to the hemoglobin. The fluorides, in very small doses, have been given with marked benefit in cases of rickets and other diseases characterised by malnutrition of the osseous system. In soft vascular goitres, fluorides is of use if pushed, but the reduction is a consequence of the

general anæmia induced rather than the result of any special action on the sympathetic. In chronically enlarged spleen of malarial origin, the effects obtained are often very striking. There are several fluorides, but the best is the quinetum or quinine fluoride. The subject is of much interest, and merits careful investigation.

SURGERY.

OUTWARD ROTATION OF LOWER EXTREMITIES, HEELS POINTING FORWARD. DEVELOPMENT OF COMPLETE CONTROL.—Hill in *British Med. Jour.*

A female child, six and a half months old, had the following deformities: The right biceps cubiti could only be extended to such an extent as to leave the elbow at an angle of 145° . The left was also slightly shortened. There was no nail on either thumb, the paternal grandfather and father having none. The lower limbs were so everted at the hips that the heels looked directly forward. The child could rotate them with help and flex the thighs upon the abdomen. There was no dislocation of the hips. There was no perceptible deformity of the articular surfaces of the tibia or femur. Flexion of the knee was natural, but the joint could be extended beyond the straight line until the toes touched the abdomen. The toes could touch the outer side of the leg, while flexion of the ankle joint was very limited. A pelvic band, with outside irons jointed at the hips, knees and ankles, was applied. A month afterward the tendines achilles were cut. After the lapse of two years, all instruments were discarded. When she was six years and a half old, she could run, hop and jump, and had complete control over her limbs.

The deformity was due partly to defective structure of the knee joints, the crucial ligaments being only partially developed, as well as the ligament of the patellæ, and partially to faulty position of the child while in utero.—*Archives of Pediatrics.*

THE TREATMENT OF SPRAIN BY THE ELASTIC BANDAGE.—This method of treating sprains has recently been recommended by Marc Sée (*Revue de Thérap.*). It is the only method which fulfils the two indications: 1. To cause as rapid absorption as possible of the blood extravasated around the joint (a lesion which controls all the

other symptoms, such as pain, swelling, difficulty of movement, etc.); and, 2. To favor cicatrization of the torn ligaments and ruptured parts by complete immobilization.

The antiphlogistics and blood-letting, formerly advised by Hunter and Guersant, only partially fulfil the former indication. There is the same objection to the movements which Ribe and Bonnet advise for the injured joint. The refrigerants and cold-water baths advised by Baudens cause contraction of the tissues around the joint, and dispel the inflammation, but they are not favorable to the absorption of the infiltrated fluids. Even massage, though superior to the other remedies just mentioned, fulfils only the second indication; furthermore, it is inconvenient, and requires much patience and time; and between the seances of manipulation the swelling reappears and the pain returns. It is true that massage has the advantage of removing the extravasated materials from the region of the joint toward the more vascular portions of the limb, where they are more easily absorbed. But the elastic bandage has this advantage in a greater degree, since its action is continuous. Finally, and above all, it favors immobilization of the joint, which is impossible during massage, and without which it is almost impossible to get cicatrization of the torn structures and complete recovery in sprains of any intensity. The bandage should be applied to the skin itself, care being taken to fill up the flat and depressed places with wadding, so as to give a uniform surface around the joint for the bandage to act upon.—*Medical News.*

THE TREATMENT OF CASES OF EPITHELIOMA OF THE ANUS AND LOWER PART OF THE RECTUM.—A few years ago, the removal of the lower part of the rectum was somewhat enthusiastically taken up by some surgeons, and many seemed to think that it was worthy of ranking as an operation of the first magnitude. It appeared to me after seeing the results of a few cases in the hands of my colleagues, that, as a means of affording any substantial relief, its scope would be very limited. Seeing the very short distance that the operator can go in the upward direction behind the disease, and consequently the almost inevitably speedy recurrence, together with the uncontrollable contraction that must follow anything like the complete removal of the entire circum-

ference of the gut, or anus, I suggested some time ago that it would be much better, in all cases but the very slightest, to perform a lumbar colotomy first, and then, when the patient has recovered from this, to excise the malignant growth as freely as possible. If the patient gets over this, he has every chance of living a year or two in tolerable ease.

On the first occasion that presented itself, I put this plan into practice, with the happiest result. The patient was under observation for two years after the second operation, and was in perfect ease and comfort, and had become quite fat and strong, though at the time of the operation, she was much emaciated. The most striking point, to my mind, is that, though the disease had reappeared within six months after the removal, she was quite unconscious of its existence. My attention has been forcibly directed to this subject again by witnessing the daily tortures of a friend who has undergone two partial and wholly useless operations, and has now to pass his motions over a ragged raw surface with a gash in it, caused by one of the operations. The presence of the disease in the lymphatics of the groin now renders any attempt at removal out of the question; but the colotomy might still be done. I contend that, by adopting the course I indicated, any patient might pass through all the phases of this horrible and fatal malady with scarcely any pain at all. The advantages of the absence of feces from the wound, resulting from the excision, or from the recurrent growth, are to obvious too require mention here. James E. Adams.—*British Medical Journal*.

DENTAL CARIES. — The ætiology of this important affection has always been a matter of much difficulty, although it has been closely studied. The more highly civilized races suffer most from it. The character of the food, the use of hot drinks, the overcrowding of the teeth by shortening of the jaws, have all been assigned as causes of the disease, and it is not improbable that all these contribute somewhat to it, but the general opinion has been that it is never entirely traumatic, the condition of the tooth structure itself having an essential relation to the development of decay. Lately, however, considerable attention has been given to the microbe theory of the disease. Several experimenters claim to have shown

that acid or alkaline fluids are not capable in themselves of producing destruction of dentine, and that it is only under the conditions favorable to the development of micro-organisms that anything analogous to caries will take place. The question can hardly be regarded as settled, although the advocates of the microbe theory are very enthusiastic in defence of it. In its practical bearing the doctrine will not materially modify the rule now in force for the preservation of the teeth — cleanliness. — *The Polyclinic*.

Bibliography.

KENTUCKY STATE SANITARY COUNCIL. (1)

Since the introduction of the germ theory the fact has been demonstrated that at least the majority of epidemic and contagious diseases are caused by the introduction of some form of animalculæ into the system. State medicine and public hygiene are occupying a more prominent place in the minds of physicians. The old question was "How to cure?" Now it is "How to prevent?" To those who are interested in this subject, we would recommend this pamphlet, as it contains much valuable information.

GUNSHOT WOUNDS OF THE SMALL INTESTINES. (2)

The author instituted a series of experiments for the purpose of ascertaining the results to be obtained by immediate operations after these wounds, in contradistinction to the "old expectant treatment." He states that excessive hemorrhage being certainly the cause of speedy death in severe gunshot wounds in this region of the body, where evidences of its presence are plainly exhibited, there can be no hope of saving the lives of any of the wounded except by immediate abdominal section. This alone, by admitting the air, quickly staunches the fast flowing current, and

1 Proceedings, Addresses and Discussions of the third semi-annual meeting of the Kentucky State Sanitary Council, held at Bardstown, Ky., March 26 and 27, 1884, under the auspices of the State Board of Health.

2 By Charles T. Parkes, M.D., Professor of Anatomy in Rush Medical College, Chicago, Ill., being the address of the chairman of the section on surgery and anatomy, read at the meeting of the American Medical Association, held at Washington, D.C., May, 1884.

gives time for the application of the ordinary rules of surgery for the prevention of hemorrhage. The author gives the reason why, as the result of a wound, a portion of the intestines, or some abdominal organ, can be removed by the surgeon, giving the patient a better chance for recovery than if the injury is a perforating gunshot wound.

This pamphlet contains considerable valuable advice and should be read by every physician who treats this class of cases.

A.

REPORT OF THE TRUSTEES OF THE CITY HOSPITAL, BOSTON. (3)

The present annual report (twentieth) is for the year ending April 30th, 1884. From it we find that the largest number in the hospital at any time was 348; smallest number, 235; daily average number of patients, 286.29. There were 14,241 cases treated in the out-patient department.

3 Twentieth report of the Trustees of the City Hospital, Boston, with reports of the superintendent and professional staff, rules for admission and discharges, prospectus of training-school for nurses, etc. 1883-4.

The following is taken from the Superintendent's report: The whole number of patients in the hospital during the year was 5,061, and they were under treatment an average of 20.7 days each, making a total of 104,782 days, or 14,969 weeks. The entire cost of maintaining the hospital during the year was at the rate of \$9,984 per week. But of the patients enumerated above 478 paid for 2,633 week's board, so that the average cost to the city for board for each patient was \$8.70 per week.

There has been an increase in salaries and labor, because the trustees deemed it wise to retain old officers, nurses and employés, whose services became more valuable with training and known excellence. No policy could be more disastrous or deceptive than cheap labor in the care of the sick. The title gives a correct idea of the contents, and the work of the institution is presented in a clear and concise manner. A.

GOVERNOR CLEVELAND.—has vetoed a bill appropriating \$25,000 for enlarging the homœopathic lunatic asylum at Middletown N. Y., and also the Adulteration of Food and Drugs bill.—*Medical Herald*.

THE ANTI-SEPTIC METHOD OF DR. DÉCLAT.

Syrup of Nascent Phenic Acid (Syrupus acidi phenici nascenti "Déclat"). $C_{12}H_{10}O_2$.

A tablespoonful contains nascent phenic acid C. P. gr. ij. ss. Dose for adults, f 3 ss. q. 3 hr. In Malaria, for Mucous Membrane, for Bronchitis, Scarlet Fever, as "Anti-epidemic."

Syrup of Sulpho-phenique (Syrupus sulpho-phenicus "Déclat"). $NH_3, C_{12}H_6O_2, HS$.

A tablespoonful contains sulph. hydro. phenatis ammoniac gr. ij. ss. Dose for adults, f 3 ss. t. i. d. to f 3 ss. q. 4 hr. Chronic Coughs, Catarrh, Asthma, Rheumatism, Skin Diseases.

Syrup of Ammonia Phenate (Syrupus ammoniac phenatis "Déclat").— $NH_3, C_{12}H_6O_2$.

A tablespoonful contains ammonia phenate gr. ij. ss, tr. Thebaic, mss. Dose for adults, f 3 ss. q. 3 hr. Influenza, Croup, all Fevers, Acute Forms of Disease, Paroxysms of Asthma.

Syrup of Iodo-phenique (Syrupus Iodo-phenicus "Déclat").

A tablespoonful contains iod. metal. gr. i. ss; potass. iod. gr. i. ss; acid. phenic. nasc. gr. i. ss. Dose for adults, f 3 ss. t. i. d. Glandular Enlargements, Tumors, Ulcerations, Scrofula, Syphilitic Cephalgia, Ostealgia.

Phenated Cod-Liver Oil (Oleum morrhue phenatum "Déclat").

Specially prepared from fresh cod-livers on the Norwegian coast. A tablespoonful contains pure nascent phenic acid gr. ij. ss. Dose for adults, f 3 ii t. i. d. In Consumption, for all affections of the Lungs, Anti-Septic Tonic.

Glyco-phenique (Glyco-phenica "Déclat"), for external use, and for dispensing Phenic Acid C. P.

A to % solution of nascent phenic acid C. P. in an aqueous dilution of glycerine C. P. For Gargle, Burns, Moist Inhalation, Vaginal Injections, Anti-Septic Toilet, etc.

Anti-Septic Syrup for Whooping Cough (Syrupus ammonia-phenicus compositus pro pertussi "Déclat").

A teaspoonful contains ammonia phenate gr. i. ss. Dose, f 3 iij to f 5 xxx, according to age. This compound destroys completely and rapidly the particular germ of whooping-cough.

Hypodermic Injections of Nascent Phenic Acid, Sulpho-Phenique, Ammonia Phenate and Iodo-Phenique, all at 2%.

The above combinations of phenic acid are also prepared with a non-saccharine base for diabetic patients, and for those to whom sugar is objectionable.

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Original Articles.

CHRONIC IRRITABLE ULCER.

By FRANK WARNER, M.D., Columbus, O.

TREATED BY EXCISION.

Mrs. B., aged 30, white, the wife of a well-to-do railroader, was burnt by means of a flat-iron on the right wrist, in a region corresponding to the outer surface of the lower border of the radius, on the 5th of January last. The burn was sufficient to occasion a slough of an inch in width and two inches in length, the long axis extending along the shaft of the bone. The sore did not heal; but just why it should not do so was not very apparent, for the woman was well nourished and seemingly in possession of good health, except that she was somewhat annoyed each month with an obstructive dysmenorrhœa. This patient is of a highly nervous and active temperament.

The wound continued an ordinary sore for some time, and an amount of pain accompanied it which is characteristic of such an injury. After a few weeks, the wound changed its healthy granulating surface for that of an excavated non-granulating sore with an œdematous embankment. The wound, which before had been characterized by a copious formation of pus, was now bathed with a slimy, slight secretion. The sore assumed an intensely painful aspect, which required the administration of very considerable and oft-repeated doses of opiates to relieve it. The case passed through the hands of several physicians who tried various means to induce the sore to change its irritable character to that of a healthy nature, but the patient was so unreasonable and impatient as to give to none of them a fair opportunity of bringing about the healing process. The case passed on in this style for a number of months without any change. In the early morning of the 16th of August, I was summoned to her home, and there found her suffering the most intense and excruciating agony. After carefully learning the history, as above detailed, I at once proposed operative measures for her relief, with the promise of a cure, which was hailed with a hearty acceptance. Having etherized the patient, I made an incision in the healthy skin about the embankment of the wound until I had entirely encircled it; then, dissecting up the

ulcer from its base, so as to leave nothing of the old sore, but instead a new healthy looking wound. Silk sutures were used to partially approximate the edges of the integument, but owing to the amount of substance removed this was impossible to accomplish without too great tension, so that the gaping wound was one-fourth inch in width.

On the 19th of August the swelling of the tissues was sufficient to deem advisable the removal of all the sutures, and the wound was now dressed with carbolyzed cerate. On the following day, I again visited the patient, and found the wound presenting a healthy granulating surface with a pinkish pellicle of new tissue throwing out about the edges. The pain in the wound was an element of some importance until August 22d, just six days after the operation, when it had sufficiently subsided to permit the patient's sleeping soundly without the aid of opiates. At this time the wound was characterized by a copious pus formation, bright-red granulations which were up even with the edges of the surrounding integument. The new skin was rapidly pushing its way toward the centre and the wound was gradually contracting its size.

On August 25th, the wound was almost entirely and completely healed, so as to require no further attention of the physician. No pain is felt in the region which had so recently been the seat of such excruciating agony. Her sleep is now calm and restful, and we will expect to soon see the body weight, which had been somewhat lessened, completely regained.

TREATED BY SKIN-GRAFTING.

J. K., æt. 22, white, male, molder by occupation. Has always enjoyed the best of health and is strong and robust. Is free from any scrofulous, syphilitic or other dyscrasie. About six months before his case came to my notice, the patient was very severely and seriously burnt by means of molten iron—the burn including the hypogastric and left iliac region, the insides of both thighs and considerable portions of the surfaces of the calves of the legs; the destruction of tissue in each region involving the true skin, which, in time, sloughed away. The wounds assumed a healthy granulating surface and the healing process accomplished a repair of all the tissues except on the legs. Even here the wounds underwent a considerable

reduction in size, but the territory of destroyed integument was seemingly too extensive to permit of a complete repair. On the fibular side of either leg the wounds lost their ruby-red granulations, the formation of pus greatly diminished, the surface of the sores soon became depressed before the surrounding healthy integument and the edges elevated and hardened. They soon after took on their irritable neuralgic character, and the patient was compelled to take opiates in large doses for relief of the pain.

In the treatment of this case I started out to reduce the wound to a healthy aspect, for the purpose of engrafting onto the granulations pieces of healthy skin cut from another surface of the body. The legs were poulticed three times a day with flaxseed meal for six days, and the surface of the sores touched over nightly with the solid stick of nitrate of silver. Next, the legs were poulticed at night and in the mornings replaced with a snugly-fitting muslin bandage; the caustic now being used less frequently—every other day. At the end of two weeks we discarded the poultices, but continued the roller and caustic for another week, at which time the sores had assumed somewhat of a different aspect, the surfaces bearing healthy granulations. Grasping a pinch of skin on the forearm with a pair of forceps, I cut it off with a pair of very sharp scissors, and immediately placed it on one of the granulating surfaces and secured it by means of an adhesive plaster of sufficient length to reach out well on to the sound integument of either side of the wound. This little operation was repeated until three pieces were well secured on each ulcer. Five of the skin-grafts secured a permanent footing and one perished. After three days, the grafts were making some progress—presenting the appearance of little islands in the sea of granulations. From the edges of these islands were little pinkish pellicles of new integument crowding toward the surfaces of the wounds.

In three weeks after the grafting, the wound of the left leg had entirely healed, and one week later saw the ulcer of the right leg entirely disappear.

TREATED BY PRESSURE.

J.D., æt. 41, white, male, a machinist. His general health not very robust, although quite free from constitutional taint, so far as could be learned either from the

history of the case or by physical examination. The patient is of a nervous, active, energetic type of man. He is free of any intemperate habits.

Five years before his case came to my notice, the patient had met with a seemingly slight accident, in being struck by a steel bar, which produced quite an abrasion of the skin on the outer fibular side of the leg of the right side, about six inches below the knee; but this wound from the start showed very little tendency to heal, and from time to time the ulcer would now enlarge and next recede in its size; this oscillatory movement being kept up year after year; and within a year preceding the treatment an additional feature was added to the ulcer, it assuming an irritable neuralgic neuralgic type. There was one interesting feature to watch in the behavior of the ulcer as it would enlarge or diminish its diameter. Before enlarging, its oedematous, hardened embankment would gradually undergo a softening process, and the ulceration would soon extend its territory underneath this, giving to the sore a worm-eaten appearance. After a month or two, semi-healthy granulations would spring up, and the ulcer undergo a certain degree of repair; but, before this was at all complete, the granulations would again disappear and the edges become hardened and raised. In this case there was a palpable reason why the ulcer would not heal, which was not seen in the other cases above detailed. On the leg of the affected side were a number of varicose veins, which were sufficiently enlarged to have induced him to wear a rubber bandage, I believe, even before the occurrence of the injury.

When I assumed charge of the case the ulcer presented the ordinary appearance of a sore of a chronic type with no tendency to repair. The patient described it as being exceedingly painful and irritable, disturbing him in his sleep and occasionally interfering with the performance of his daily duties. At the outstart, I attempted to heal the ulcer by first relieving the sore of its irritable and painful character; to induce, by stimulation of the wound, a healthy granulating surface, and finally to support the circulation about the part until it would heal. The patient was put to bed and an application of flaxseed poultices frequently renewed, continued for one week, without any other treatment. Then,

for another week, in addition to the poultices, the surfaces of the sore was brushed over with a stick of lunar caustic. The poultices were now discontinued; the leg firmly bandaged with a muslin roller, and the patient allowed to go from his bed. The application of the caustic was continued at intervals of about one week and the ulcer covered with adhesive plaster, applied in a stellate manner and with some degree of pressure, as if to get the edges of the sore drawn to the centre of the wound, but in no case applying them so tightly as to occasion any considerable degree of pain. This plan of treatment was continued without interruption for three months, when the sore was entirely healed.

Correspondence.

FOREIGN CORRESPONDENCE.

GÖTTINGEN, AUGUST 21, 1884.

Editors Lancet and Clinic :

Prof. König, the director of the surgical clinic, is a firm believer in the saving grace of cleanliness and antiseptis. Complete drainage and perfect antiseptis are the results at which he aims. The first he attains by rubber tubes, cut in proper lengths and introduced into a wound wherever he thinks it necessary. The antiseptics used are iodoform in powder, and carbolic and salicylic acids in solution. The clinical amphitheatre literally reeks with the odors of these drugs, and, in consequence, the air to one unaccustomed to it, is very oppressive. To a novice, after a clinical lecture is over, one might appropriately quote poor Ichabod's words, when drawn out of the old covered well, "I feel like a dead man and smell like a doctor's shop." In his use of the antiseptics Prof. K. is very careful and painstaking; his instruments, his hands, and those of his assistants, and the seat of the operation, are all thoroughly washed with a carbolized soap and then drenched with some antiseptic solution. His solutions are corrosive sublimate, 1-1,000; carbolic acid, 3-6 per cent., and salicylic acid, 6-8 per cent. In operations on children under seven years of age he uses only the salicylic acid solution, as he claims to have seen bad results follow the use of carbolic acid and corrosive sublimate at this early age. In ordinary operations he gives no preference to any one solution and uses

that which the fancy of the moment seems to dictate. His treatment of wounds is very simple; the wound is closed with as many drainage-tubes as are considered necessary, the interior of the wound and the tubes having been liberally dusted with iodoform; along the line of sutures iodoform in considerable quantity is placed. Over this, ordinary gauze, impregnated with some antiseptic and arranged in wads as large as a child's head or even larger; then a layer of paper saturated with a solution of carbolic acid in oil; above and below the ends of this paper, which extends some distance above and below the wound, the limb or trunk is wrapped by several turns of our antiseptic absorbent cotton; next comes a layer of ordinary cotton batting, and over all the operator now places a bandage of gauze, wrung out of some antiseptic solution and still wet, which covers all the bandages before mentioned. Thus the wound is left for eight or ten or even fifteen days. If, on the third to the sixth day, patients become feverish and complain of pain, the bandages must be removed, secretion of wound removed, the wound dressed and the bandage reapplied. In every operative case, except those on face and scalp, on redressing along the line of sutures is found a strip of necrotic tissue from one to three centimetres in width. I will, on second thought, modify my statement—in the majority of cases will probably be a safer statement. In addition the face of the wound has been macerated in the discharges and the epithelium is gone, leaving the wound in a red angry-looking condition that cannot but increase the pain and discomfort of the patient. The necrotic tissue depends on the sutures being drawn too tight, and no distinction as to deep and superficial stitches being made. All are placed at about the depth of our deep sutures, and hence, to procure accurate apposition, the cut surfaces must be placed close together and drawn tightly. Hence, in parts of the body where the blood supply is not very active and abundant, gangrene of tissue must occur. Then fewer deep sutures, superficial ones and more frequent dressing of the wound with earlier removal of the sutures would probably be indicated. The knee-joint has for years been the *noli me tangere* of surgeons, but modern surgery with its triumphs of antiseptics has at last solved the riddle. Seven times have I seen

Prof. König open the joint and in only one case did the temperature afterwards rise above 101° , and that was caused by stoppage of a drainage-tube with retention of the secretion. As soon as this was removed the fever again fell and did not rise again. Thus, the surgeon of to-day, with his cleanliness and antisepsis, stands a modern Ajax defying the lightning of disease.

The most frequent cases seen in the surgical clinic here are, by all means, tuberculosis of bones. It is simply astounding; never a day passes but that a case of this kind is not brought before the class. Prof. K. has within a few months past published a book on "Tuberculosis of Bone and Joints," the material for the work being drawn from his experience in the clinic here. Every man has his hobby, and tuberculosis of bone may be Prof. König's, but, not knowing any better, we must accept all his diagnoses and admit bone tubercle to be as frequent as he claims. We have had one case of gastrotomy with formation of gastric fistula for carcinoma of cardiac orifice of stomach. Prof. K. made the operation only at the earnest solicitation of the patient. Personally he is opposed to the operation, and believes that in our anxiety to perfect ourselves in the technique of the operation we lose sight of the interests of our patient. What was the result of this case I could not learn; however, on the following "dressing days" this case was not shown, so we suppose the patient died.

Those who have been long in practice or spent some time in hospitals have no doubt been struck with the fact that for some time cases of a certain kind will not be met with, and then a number of such cases will present themselves, no causal or contagious relation present, simply coincidences. A few weeks ago we met with such an array of mammary carcinomata, in all seven cases, all of which fortunately were small tumors easily removed and with no extensive involvement of axillary glands. Another case of mammary tumor proved on incision to be a deep-seated chronic abscess with thick unyielding walls. The statistics given are nine per cent. of cases operated on remain free from return of the disease; before necessity for removal of axillary gland arises this per cent. of success mounts up to twelve, after such a necessity it falls to six per cent. Since

Winiwarter's statistics, that operations on cases as they come add eight months to the average duration of life, Prof. K. holds it incumbent on the surgeon to operate, it matters not how unpromising the case may be. In one of our unpromising cases he scored a brilliant result, it now being five years since the operation and the patient still well. In patients above sixty years of age, however, basing his practice on the slow progress of the disease at this age, he rejects operative interference, believing that it only hastens the fatal issue.

To-day a case of fracture of the second lumbar vertebra was presented: A girl, aged twenty years, about two weeks ago fell from a chair on which she was standing, but does not remember having struck her back. She suffered pain in the back on every movement, and three days after the accident came to the clinic where she was examined, but it was supposed to be only a contusion. She was sent home but becoming no better she returned yesterday to the clinic, and, on examination, a fracture of the second lumbar vertebra was diagnosed and from the size of the moveable fragment it was supposed the line of fracture must have extended into the spinal canal. Notwithstanding this the only complaint of patient was the pain at the point of injury. Patient was put in horizontal position and will be kept in this position for a few days when a felt splint or corset will be applied.

Chloroform is the universal anæsthetic and sometimes given in a case or in a way which we would consider criminal almost. Prof. König holds that all cases of death from chloroform narcosis result from suffocation from the tongue dropping back over the epiglottis, forcing it over the superior laryngeal opening and thus stopping respiration; this is especially apt to occur in persons who are toothless and the natural conformation of the jaw being lost. The remedy is, either when stertorous or impeded respiration occurs, to depress the chin and thus throw the weight of the tongue forward, or with tongue forceps to seize the tongue and draw it forward. In a number of cases anæsthetized none but the best results have followed the use of chloroform and we must admit that in our caution we may have been somewhat too zealous, still to see Prof. König order a patient who has just regained a glimmer of consciousness, scarcely enough to obey the

order, to get up from the table and walk to his ward is, at least the first time you see it, somewhat startling.

WILL H. KELLY, M.D.

MUSCULAR ATROPHY WITH LICHEN RUBER.—Dr. Mader, of Vienna, communicates to the *Wien. Med. Blätter*, April 10, a case of extensive muscular atrophy, combined with general lichen ruber. The patient was a seamstress, aged 42, in whom the skin-affection had begun three years before her admission into hospital, with redness over the whole body, combined with oedematous infiltration and a scaly condition of the epidermis. Four months later she was transferred to the medical side of the hospital for electric treatment, on account of the paresis which had gradually developed since the appearance of the skin-affection. The arm-muscles were conspicuously atrophic, and passive motion caused pain and resistance. There was difficulty in feeding herself, from paralysis of the muscles of the arm; but the smaller movements of the hands and fingers were normal. In the lower extremities the glutei were atrophied the most, and movement was diminished in all the joints, although least of all in the ankle. Electric tests showed well-marked degenerative reaction. Sensitiveness to the faradic current was considerably diminished, the reverse being the case with regard to galvanism. Cutaneous sensibility and localization appeared to be intact, except on the upper third of the thigh. Galvanism was tried, although without much hope of a cure, and the strength of the current was increased to twenty elements without any effect. The interest in this case lies in the simultaneous development of the paralysis and the skin-affection, which probably both arose from some affection of the spinal cord.—*London Medical Record*.

PHYSICIANS who have frequent occasion to use morphia hypodermically should remember that if kept in solution for any length of time, this drug is liable to decomposition. One of the products of such decomposition may be apomorphia, as was recently pointed out by Dr. Jennings in the *Lancet*. In this case violent emesis would be set up, which may account for the phenomenon so frequently noticed and reported of hypodermic injections of morphia being followed by violent vomiting.

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Cincinnati, September 6, 1884.

In Memoriam.

DIED.—September 2d, of cancer, Mrs. S. P. Culbertson, wife of the senior editor and proprietor of this paper. While this has been a not unexpected death, yet the loss will be none the less severely felt. Dr. Culbertson has the deepest sympathy of a large circle of friends in this his time of affliction. A.B.T.

THE CHOLERA.—“One hundred and seventy-three cases of cholera and seventy-six deaths,” is what the United States Consul at Naples cables to Washington. The plague is spreading throughout Italy, Southern France and Spain, slowly but surely.

The evidence now seems to point to the existence of cholera in a mild type in Marseilles during the summer of 1873, but by a collusion of physicians and hospital authorities a panic was prevented.

The wide area over which cholera is spread renders it not only probable but almost certain that it will reach America this fall, and in epidemic form by next summer.

Physicians everywhere should urge thor-

ough sanitary measures among their patients, especially in large cities.

THE NATURE OF CHOLERA AND PRECAUTIONS TO BE OBSERVED IN TIME OF CHOLERA.—The following rules drawn up by Drs. Koch, Skrzeka, and Von Pettenkofer, the Commission of experts appointed by the Prussian Board of Health, have just been officially promulgated:

Cholera is propagated by intercourse between people, and the infection material clings, without exception, to men and the articles with which they come in immediate contact.

Everyone, who would not endanger himself by receiving the germ of the disease into his house, should keep away from those who come from stricken places. As soon as the first case of cholera appears in a place, the persons coming from that place must be considered as in all probability bringing the disease germ with them.

In time of cholera one should lead as regular a life as possible. Experience has shown that all troubles of digestion especially favor cholera. One should therefore, particularly avoid whatever may cause digestive troubles, as excesses in eating and drinking, and the use of food not easily digested.

Everything which causes diarrhoea should be avoided. As soon as symptoms of diarrhoea appear a physician should be sent for.

No food should be used which comes from a house in which cholera rages. Food, the origin of which is uncertain, should only be used after being cooked. The use of uncooked milk is to be especially avoided.

All water which is fouled by human waste is to be strictly avoided. Water which comes from surface wells in inhabited places, is to be regarded as suspicious, as is also water from swamps, tanks, streams, and small rivers. Water is especially to be regarded as dangerous which has been in any way contaminated by cholera dejecta. It should be particularly observed, also, that water which is used for cleaning vessels and soiled clothes is not thrown into wells and watercourses, or in their vicinity. Since it is impossible to recognize contaminated water, only water that has been previously boiled should be used. These

remarks are to be applied not only to water for drinking purposes, but to that which is used about the house for any purpose, since the infecting principle may be conveyed from the human body to the water used in the kitchen for washing and cooking food, and for laundry purposes.

People are especially warned against the opinion that the drinking water alone can act as the bearer of the infecting material, and that one may think himself completely guarded if unsuspicious or boiled water alone be used.

Every cholera patient may be considered a diseased centre, and it is therefore advisable that the patient should not be cared for at home, but should be carried to a hospital. If this is not practicable, all unnecessary intercourse with the patient should be strictly avoided.

Do not visit a house in which there is cholera, unless his duty calls him there, nor such houses as were visited by the disease in former epidemics of cholera. Nor should one go to places, in time of cholera, in which large numbers of people are gathered (yearly at fairs, places of amusement, etc.).

No food or drink should be taken in rooms in which there are cholera patients. Clothes or linen soiled by discharges of cholera patients should be burned or boiled immediately, or placed in a 5 per cent. solution of carbolic acid for twenty-four hours. The discharges from cholera patients must as soon as possible, be placed in vessels which contain a five per cent. solution of carbolic acid; and the vessels should be washed out with this solution when emptied. The discharges mixed with this solution may be thrown into necessities or water-closets, but care must be taken that the discharges are not thrown into wells or into streams the water of which is used.

The floors and all articles soiled by cholera discharges must be cleaned with dry cloths or rags, which must then be burned or placed in a five per cent. solution of carbolic acid.

The clothing, linen, and the other articles used by the patient, should not be sent away before being certainly disinfected.

Other precautionary measures than those here given against cholera are unreliable, and all persons are warned against the use of so-called preventive medicines in time of cholera.—*Deut. Med. Woch.*—*Medical News.*

Selections.

MEDICINE.

AN ADDRESS ON INTERNATIONAL COLLECTIVE INVESTIGATION OF DISEASE, BY SIR WILLIAM W. GULL, BART., M.D., F.R.S., (*Delivered at the International Medical Congress, Copenhagen, August, 1884.*)—Gentlemen, Friends, and Colleagues,—I deem it a great honor to be appointed to address you on this occasion, and on a matter which promises to contribute to the advancement of medical knowledge by a wider and fuller method than has yet been sufficiently attempted.

The subject of my address is the institution of an International Collective Investigation of disease. This object, I need not say, is intimately connected with the main purpose of these Congresses; if not, indeed, in the natural course of things, an integral part of them. At present, we come together as individual cultivators and practitioners of medical science, each contributing his quota to our knowledge on this or that subject, which may or may not have been selected for thesis and discussion before hand. Nor are our labors, even under these conditions, without excellent results. But a feeling is growing, and already widespread, that by a more organised combination a more intimate and better co-operation, not only the members of these Congresses, but all the working men of our profession throughout the civilized world, might sooner or later be organized into a body of fellow-workers, associated for collecting information on medical questions over the widest area.

There is perhaps no profession which enforces upon the individual members so strongly as does medicine, the necessity of continuing observation and intellectual cultivation; and there is no means by which this cultivation can be so well promoted as by meetings like the present, and by the active organizations, in the form of committees or sub-committees, which, we hope and anticipate, may spring from them.

The human intellect in its single and separate operation may produce wonderful results; yet, isolated as a man may seem to be in the intellectual labor which occupies him, he makes but little progress apart from the aid and co-operation of other minds which have worked and are working in the same direction. And though,

doubtless, it will always be the privilege of the highest intelligences to clear the boundaries of knowledge, and to throw the rays of their genius into the surrounding darkness, yet all must be agreed on the great and almost supreme value of the intellectual co-operation of less gifted minds in the simple observations of facts, and especially when the needed facts are scattered over a wide field.

However much apart, as I say, a man may seem in the work of his intellect, he is really much less so than he seems to be; for, as we cannot refer the strength of our bodies to any particular food that we have taken, so neither can we track the thoughts of our minds to sources whence they may have been fed; and, if our social nature has been raised from savagery to civilization by social combinations, it is even more necessary that our intellectual nature should be helped in its growth and nurture by such intercourse and association as here presented, and which we now propose further to advance.

My great countryman, Bacon, has not generally been well received in the school of German philosophy; so that I must use some caution in citing him in favor of intellectual combinations in pursuit of the sciences. Still, on thinking over the bearing of collective investigation of disease, I could not but feel that, although three centuries have elapsed since he broached this question, and little has been done in it since, we might be about to realize his idea of a *Novum Organon*, the formation of a new intellectual machine for removing and overcoming the obstacles to our medical progress.

The purpose we have before us is no less than this; to enlarge and methodize intellectual co-operation, whereby not only the active, but the at present inactive, faculties of observation of the wide-spread members of our profession may be combined into one or more lines of energy. I am not unmindful how much this presupposes; how it assumes the combination of exact observation and record, with refined criticism and analysis; how it demands the highest scientific perception, with the humble collection of the meanest facts; how, in fine, it means the development of intellectual combination into many forms of organization which should not be one but many instruments of research. Such a forecast may, perhaps, lead us to exclaim,

"Who is sufficient for these things?" Yet happily the answer is near; time, though short for the individual, is inexhaustible in the race; the intellect is in its infancy, its powers of growth unexhausted; and to these, in their evolution, there appears to be no limit. The work to be done is unchangeable, and there are eager and willing workers in all lands, who only need the encouragement and direction of the master-minds of medical sciences to set them to work.

Happily, the phenomena which demand our investigation, though complicated and transient, are, it need not be said, the result of unchangeable laws. The capriciousness of Nature, as we speak of it, is but the weakness of our own sense and understanding, and its so-called mystery and obscurity but the darkness in ourselves.

The physiologist and the pathologist have to admit that not even in the caprices of man is their capriciousness; the mental caprices have their organic basis; that the whims, the fancies, and their prejudices of the human mind, not less than the changing activities of the functions of his body, or the revolution of the earth on which he lives, are the resultants of unvarying laws, unchangeable as the fixity of the stars on which he gazes with wonder and admiration.

We may therefore have this encouragement, that, when any of our work is done, however small and trifling it may seem, it is done and settled for all time, or at least so long as the laws of organization remain what they are; that the clearing of a fact in respect of disease will remain an imperishable inheritance of knowledge to those who follow us, so long as there is disease in the world. We may support our labors therefore, with a feeling of surety that the problem before us is a settled problem, however difficult its solution. Nature will not delude us, however much we may delude ourselves.

If for these preliminary remarks I need any apology, might I not say I came from the country of Newton and Harvey, that I have traveled by the home of Spinoza, and and that I am speaking in the presence of Descartes and Leibnitz.

Gentlemen, I do not appear here to day on my own behalf, but on behalf of the Collective Investigation Committee of the British Medical Association of most of the

medical practitioners in the kingdom of Great Britain and Ireland; and it has, I believe, affiliated associations in our colonies. It numbers from ten to twelve thousand members, all, or almost all of them, actively engaged in the practice of medicine. It is organized into about forty branches, with their presidents and committees. These branches have frequent meetings for the purpose of professional intercourse, and for reading and discussing papers on medical subjects. It has moreover, a weekly journal of very extensive circulation, which records the transactions of the different branches, and supplies to its members lectures and communications on the most important current subjects in medical science. This Association has been founded over fifty years.

In putting arguments forward for the establishment of a National Collective Investigation in its more limited form, it was permissible to insist upon minor advantages to be expected from such association: I refer to its educational value, since it could not but happen that every co-operating member would learn much from the investigation proposed; and that, whilst he promoted science, he would no less promote his own intellectual status.

So much for the more limited, though not less important, advantages of national collective investigation; but in an international collective investigation the ground widens very much, not only from the different intellectual characters of its working members, but also from the greater variety under which disease presents itself.

The first gain, no doubt, will be from the intercourse and reaction of different national modes of thought, with and upon each other. It need not be said that the ways in which any subject may be viewed do not depend upon the subject itself, but upon the varied capacity of the minds brought into relation to it. Minds evolved during ages under special local and national conditions, educated in lines of their own, cannot fail to give new direction and shape to the question proposed for their solution.

All will admit that, in the daily routine of practice, facts are occurring that are worthy of record; and that medical science loses much by the want of such record. By the combination proposed, what are now casual and wasted observations, would be methodized and stored for arrangement, comparison, and deduction.

The English Committee has proceeded as follows. Having first determined certain subjects for Collective Investigation, cards of queries have been framed, and distributed through the different Sections, leaving each member to select such subjects as he might prefer.

No doubt, such records even of a thousand families would contain singular revelations, and place many of our pathological ideas in quite a new light. We might learn that, with tendencies to organic disease, there was less tendency to epidemic influences; that, if diseases were prone to change their form and multiply, they were equally, if not more, prone to change in a reversion to health; that the occurrence of one disease might confer an immunity from another.

These memoranda are intended to be critical suggestions and suggestive criticisms on the state of knowledge respecting the subjects brought forward. Through them, the influence of the more advanced intellects in the profession will extend through the whole of it, and will reach its most scattered and distant members.

The volumes I hold in my hand are the first published records of the Collective Investigation in England. They contain reports and memoranda on the communicability of phthisis, on acute pneumonia, chorea, acute rheumatism and diphtheria.

I would refer, by way of illustration of my remarks on memoranda, to the memorandum on acute rheumatism. This recites our deficiencies on the etiology of the disease, and might also prove its pathology; the exceptional ways in which rheumatism occasionally develops; its probable relation to the state of the nervous system; the new aspect of the pathology of joint-affections in relation to the spinal cord; the relation of the intensity of the rheumatic affection to anæmia; its clinical relation to tonsillitis; the intercurrent affections of the skin; and last, but, happily, not least, the treatment I might add, however—not as a criticism, but as a suggestion—that an exhaustive memorandum on acute rheumatism, showing the real state of our knowledge respecting this disease in all its relations, and the more than vagueness of our treatment of it, would have a value which I should find it difficult to express. Long-standing prejudice, which for the most part are entertained and fostered as if they were established and confirmed experiences, would go down

before the exposition of such a memorandum, and its results in International Collective Investigation, as dry leaves before an autumn wind.

When inquirers on a given subject agree at the outset what are the imperfections of their knowledge respecting it, they naturally combine the more heartily in its further investigation.

The aspect of an inquiry from a personal standpoint, and from a collective investigation standpoint, present the most important contrast. In the one, the Ego, however in subordination, is not lost. It lurks at the centre of the operations, and the results or the supposed results of personal inquiry are too apt to be regarded as property, to be defended against all inroads whether this property be worth defending or not. The observation and experience of any one man, however gifted, cannot be considered more than suggestive, and cannot have any authoritative value until confirmed by the repeated observation of others.

Whilst our English Association has, as I have described, put forward several subjects for collective inquiry with the memoranda and questions I have named, our German colleagues have determined upon a somewhat different method. They have selected but one subject for investigation, thinking it better to exhaust that before taking up a second or third; and they have naturally selected a subject which at the moment prominently occupies the attention of the profession in all lands, I mean pulmonary phthisis. Upon this, they have proposed four points for solution:

1. The heredity of the disease.
2. The communicability of the disease.
3. The cure of the disease.
4. The transition of pneumonia into phthisis.

These propositions are accompanied with many questions of detail which I shall mention presently. The English Committee, at the beginning of last year, also proposed as a question for collective investigation the communicability of phthisis, and have reported upon it. The German inquiry is not yet reported upon. The important discovery of Koch that there is a specific organism associated with pulmonary tubercle, and his infection-experiments, have naturally excited the greatest interest respecting the communicability of the disease. It is well known that, at different times and in different countries, the

contagiousness of phthisis has been confidently believed in; and, as Professor Ewald remarked at a meeting of the Verein für innere Medicin, observers in America, in England and Germany, have supported the belief in the contagiousness of phthisis by important records supporting it. Still, until Koch's discovery, the professional mind was very much asleep about it, or with only now and then a half waking dream.

I have stated just now that I appear here on behalf of the British Medical Association for Collective Investigation; but I have to add that it is my duty to lay before you further what has been done by the Collective Investigation in Berlin. Within the short time that the Berlin Association has been in operation (spring 1883), its activity and success have been remarkable. The Berlin Association had already, in February 1884, nine months after its establishment, fifty-five branches; and Herr Leyden reported to the February meeting of the Verein für innere Medicin a communication he had received from Professor Rauehuss, in St. Petersburg, informing him that they would establish there a separate Association for Collective Research, after the plan of that of the Verein für innere Medicin, and in relation with it. In Paris also, in the Société des Hôpitaux, there had been negotiations respecting the collective investigation of the Verein für innere Medicin, and a similar one would be there arranged.

In the June sitting of the Committee, under the presidency of Herr Fracenzel and Herr Leyden, Herr S. Guttmann, the Secretary, reports that the German Association is daily making progress and exciting great interest; that on all sides, from Denmark, Sweden, Switzerland, Italy, Spain, and America, there were communications asking for information respecting this collective investigation, and with a request for the cards which had been issued.

With the Verein für innere Medicin, there are associated of the Berlin institution the "Königstardt-Verein," the "West-Verein," the "Südwest-Verein," and for the associated societies out of Berlin there are correspondents for the medical societies in Rostock, Schwerin, Gustrow, Munster, Minden, Arnsberg, Ratisbon, Paderborn, Aurich, Thuringen, Holland, Meran, Salzbrunn, Frankfurt (on the Main), Koslin, Freiburg, Prague, Elbing, Mainz, Hanover, Gratz, Bochum, Frankfurt (on Oder),

Hesse, Wiesbaden, Canzig, Memel, Marienwerder, Friedeberg, Lubeck, Chemnitz, Nurnberg, Bremen, Pomerania, Breslau, Giessen, Dresden, Posen, Essen, Halle, Kiel, Basel, Gottengen, Liegnitz, Riga, Damos, and Marburg.

Further, there is an association for Collective Research of the Institution for the Insane, and already Herr Jastrowitz reports a combination of twelve of these institutions in different parts of the country. There is also a similar movement for inquiry into the health and the disease of the inmates of prisons and infirmaries. In fact, our German friends have in many lines outrun us. Their exertions and their success in promoting this organization make it superfluous for me to add arguments in favor of the proposition before the meeting.

I hope I may congratulate this sitting of the International Medical Congress in Copenhagen, upon the happy incident that we are to-day called upon to centralize these operations which have begun in England and Germany, into an International Committee of this Congress, whose function will be to promote them in all lands; and, by the continued co-operation of these Congresses, carrying forward a movement the fruits of which, as I have already said, it will be impossible to overestimate; whether we limit our view to the result on our members, on the profession as a whole, on the public good, or on the brotherhood of nations.

There is but one caution, and that lies against our attempting too much at first. In our scientific ambition, it would not be difficult to overleap ourselves. It is by a little well done that we shall do much; whereas, if our deductions be hasty, incomplete, and unfounded, the authority which will naturally attach to these researches will be much more obstructive to the cause of science than the fallacious dogmas of separate individuals. If our hopes and prospects are encouraging, the steps we take cannot be too wary. The purpose of our association could only lead to failure, and, perhaps, even a gigantic failure, if the movement were not waited upon by strict caution and exact criticism. If the work proceed at the present rate, a few years will witness one of the greatest and most useful movements in modern times. The founding of an International Collective Investigation of Disease will promote the national movement of the same kind in all

countries, and will give a stimulus to international emulation under the happiest form.

In the time at my disposal it is impossible to sketch, even in an outline, the number of subjects which claim attention. The committees of the different sections, as the work progresses, will select their subjects from their own point of view; some, with a broader purpose, will take the more common maladies, and the more curious the rarer ones. One of our English colleagues would have concise description of rare maladies prepared as an entomologist would have them prepared, of newly discovered insects; printing distinguishing features in italics. He instances rhinoscleroms, Hebra's prurigo, morphea, Alibert's keloid of scars, Addison's disease; cretinoid state in the adult (myxoedema); congenital absence of special bones (such as radius and tibia, with associated portions of carpus or tarsus); cases of spina bifida, illustrating either results of treatment or survival without it; cases of sacra, tumor; cases of "the recurring iritis in young persons;" aneurysms in the orbit; the osteitis deformans of Paget; disease of joints in ataxy ("Charcot's joint disease"); non-malignant growths in the tongue; hemiglossitis; Kaposi's disease.

The arguments for these more curious inquiries are not far to seek, since diseases which are rare in some countries may be frequent in others, and, by their frequency, afford the required ground for the study of their pathology. I might instance the glandular and the elephantoid diseases of China, and the successful labors of Manson and Myers, which have traced them to the presence of the *filaria sanguinis hominis*, producing lymphatic obstructions and filarial thromboses. The elucidation of such a piece of pathology, though the disease be limited to China, must have a good influence on the whole medical mind in breaking down preconceived opinions, and in showing that we cannot go too far afield for our knowledge. It supplies moreover, a further argument for the international collective investigation of diseases.
—*British Medical Journal*.

RECENT ADVANCES IN THE ANATOMY OF THE NERVOUS SYSTEM.—By James Anderson, M.D.—From the observations of Huschke it appears that the child brings with it into the world one third of the vol-

ume of brain it will ultimately possess. It develops the second third in the course of its first year of life, and the remaining third is gained before the twenty-first year. During this first year's rapid development the brain grows 400 ccm., that is more than 1 ccm. daily, or a piece the size of a bean. Little was known of the histological details of this growth, till Exner showed that of medullated nerve fibres the infant's convolutions contain practically none. Tuzek and Fuchs now confirm with some modifications the results obtained by Exner, and trace the development of medullated nerve fibres. The former examined four brains by Exner's process; two of children born dead at full time, one a fetus of thirty-four weeks, and the other a female child twenty-seven days old. The parts were placed ten hours after death in $\frac{3}{4}$ per cent osmic acid solution, changed in two days, and examined on the sixth or seventh day. Dr. Tuzek summarizes his conclusions as follows:

1. In all the cerebral convolutions medullated nerve-fibres appear first in the medulla, then in the cortex; and the development of the same extends from centre to periphery.

2. Medullated nerve-fibres appear earliest—sometimes before the end of the ninth month of fetal life—in the medulla and cortex of the paracentral lobule, that is, in the median part of the anterior and posterior central (ascending frontal and parietal) convolutions. Next they appear in the occipital lobes and in parts of the Island of Reil. The rest of the cortex contains, in the infant, no medullated nerve-fibres. That is, the law of Flechsig, that medullated nerve-fibres appear first in the region of the pyramidal tracts and corona radiata, may be extended to the convolutions connected with them.

3. The farther development of the medullated nerve-fibres progresses at an equal rate in the convolutions. In the case of the twenty-seven days' child, beyond the paracentral lobule, the central convolutions and the occipital lobe, no convolution contained medullated nerve-fibres in its cortex. Even in the named convolutions these were contained only in the lower third of the gray cortex. Especially the tangential system of superficial fibres was completely absent.

4. Medullated nerve-fibres are developed latest on the frontal lobe, both on the vertex and the base. The straight convolution,

the orbital part of the frontal lobe and the middle frontal convolutions contained in the twenty-seven day's child, even in the medulla, no medullated nerve-fibres.

Fuchs so far confirms the above results that he finds no medullated nerve-fibres in either medulla or cortex of the infant's cerebral convolutions. In the medulla they appear first during the first month of intra-uterine life. In the superficial layer of the cortex they appear first during the fifth month; the second layer shows them first at the end of the first year; the third layer (fibræ arcuatæ) shows them in the seventh month; while the radiating bundles of the deeper layers show them in the second month. After the first year they increase steadily in number and calibre until the eighth year, when they are practically as in adults.

It has been for some time well known that the anatomical description of the spinal cord, as consisting of anterior, lateral and posterior columns of white matter with a double gray crescent in the centre, was a barren topographical division; convenient on certain occasions, as are the artificial classifications of plants, but useless as an instrument for scientific progress. We are now learning the same truth in regard to the brain. Dr. Hughlings Jackson has divided the nervous system not anatomically but physiologically into highest, middle and lowest centres, and he has spoken of the evolution of the cerebro-spinal functions from the most automatic to the least automatic, from the most simple to the most complex, from the most organized to the least organized. The anatomical results above detailed are in full agreement with his physiological and clinical generalisations. In such a division of the nervous system as Dr. Jackson has elaborated for its motor side, and in a similar division for its sensory side, which, notwithstanding its greater difficulties, will doubtless in the future be elaborated—we have the natural division as opposed to the artificial topographical division, and in the recognition of this division we have the promise of a steadier and more scientific advance, both in the physiology and pathology of the nervous system. Not that the new physiological subdivision will displace the old topographical. This it will no more do than will Dr. Jackson's classification of the diseases of the nervous system, as dissolutions to various depths of the nervous system, displace

the clinical classifications at present in vogue. The two divisions, topographical and physiological, will stand side by side, each useful in its own way, each helping the other.

At a meeting of the Medico-Chirurgical Society on Jan 22, a very distinct advance in our knowledge of the anatomy of the peripheral nervous system was announced in a communication from Mr. Victor Horsley, in the course of which he demonstrated by numerous and convincing specimens, the existence of true sensory nerves supplying nerve trunks—of *nervi nervorum* as opposed to the *nervi vasorum*, or vaso-motor nerves, already described as supplying the blood-vessels of the epinurium. These *nervi nervorum* come off at right angles from a primary bundle or cutaneous branch, and terminate, as Mr. Horsley's preparations showed, in end-bulbs lying within the perineurium. They have, up to the present time, been concealed in osmic acid preparations by the fat cells of the epinurium, but can be seen if the specimens be taken from an emaciated dropsical subject. This demonstration will afford a foundation for theories as to the cause and treatment of the lightning pains of *tabes dorsalis* or other neurotic affections.

In a recent lecture Prof. Hamilton of Aberdeen, states that the corpus callosum is not a commissure, but the decussation of cortical fibres on their way down to enter the internal and external capsules of the opposite side. The statement practically involves the reconstruction of central cerebral anatomy.

In the examination of the brain and spinal cord, it is frequently difficult to say with certainty whether minute changes observable in the nervous tissue are due to post mortem changes, to the hardening agents, or on the other hand, to commencing pathological alterations. The rule therefore, is to note the period that has elapsed between death and autopsy, the state of the brain and cord on removal, and the processes they pass through. Dr. Schultz publishes the results of the examination of the spinal cord in twenty subjects of various ages who had shown no symptoms during life of spinal disease, and whose spinal cords to the naked eye were healthy. Dr. Schultz discusses in detail the following appearances whose significance is more or less uncertain:

1. Vacuolation of ganglion cells.—This

consists in the occurrence of two or more clear spaces in the protoplasm of the cells, the nucleus being sometimes visible, sometimes not. It occurred in two out of the twenty cases, and was accompanied by a slight imperfection in hardening. Dr. Schultz agrees with Charcot that this is an artificial appearance, and from the difficulty of hardening the cord in cases of myelitis, he considers it would be especially liable to occur in myelitis, and also in any condition where the ganglion cells are delicate. Leyden considers that vacuolation of the ganglion cells is pathological, and denotes myelitis. It occurs in a marked degree in the brain and cord of starved animals, and is probably a degenerative atrophy.

2. Pigmentation of ganglion cells.—This consists in a yellowish-brown pigment surrounding and more or less concealing the nucleus. This was present in a high grade in four cases, aged respectively thirty-two, fifty, fifty-three and seventy years; in a less degree in eleven cases of middle age, and in five young subjects it was completely absent. Dr. Schultz therefore concludes with Charcot that this condition is a matter of age, but much depending on the nutrition of the individual; while it occurs also as a pathological change in irritative processes commencing primarily in the neuroglia, also in progressive muscular atrophy and bulbar atrophy. By itself there is no reason to conclude that it is pathological, and Charcot considers that it is the concomitant of the tissue-degeneration and loss of muscular power which accompanies natural old age and the *senium precox*.

3. Hypertrophy and sclerosis of ganglion cells.—By hypertrophy of the ganglionic cells is meant a swollen, cloudy opalescent condition of the cell-substance with swollen processes. By sclerosis or atrophic sclerosis of the ganglion cells is meant a shrunken, opaque or glancing appearance of the cell substance with deficient processes. Dr. Schultz in almost all cases found the cells large, with sharp outlines, well developed processes and distinct nuclei. In seven cases, however, varying from eighteen to eighty years of age, the outlines were not sharp, the cell-substance was hyaline in appearance, and the nucleus was indistinct. In only two cases were the cells shrunken and hyaline in character. Hypertrophy or hyaline swelling of the cells is therefore not a matter of age, nor of post mortem change;

and while the higher grades are undoubtedly pathological (the result of irritative inflammation, as Charcot, Leyden and Erb believe) seeing that these seven healthy spinal cords showed the change, it is unwise to pronounce on slight degrees of the change, more especially unaccompanied by other inflammatory changes. As to sclerosis of the ganglion cells, which usually accompanies only marked inflammatory alterations, Dr. Schultz considers his cases too few to enable him to pronounce an opinion.

4. Swelling and hypertrophy of the axis-cylinders.—The normal diameter of an axis cylinder, according to Charcot, is .0033 mm., but in some cases it is as much as .0099, swollen and irregular in outline. This varicose condition has been observed in the retina, and by Virchow in yellow atrophy of the cortex, and in congenital interstitial encephalitis. All observers agree in regarding it as pathological, occurring in acute and chronic myelitis, in gray degeneration and sclerotic atrophy. Schultz found the axis-cylinders in eight cords not quite so sharply outlined at the periphery of the cord, this specially where there was slight swelling of the ganglion cells, but nowhere was there an actual enlargement of the axis-cylinder, and the change has quite the appearance of being artificial. Were the swelling of the axis cylinder a change, artificial or post mortem, Schultz considers that it would almost certainly have shown itself in some of his cases. He therefore inclines to believe that, when recognized, it may be considered a pathological change.

5. Aggregation of round cells in and about the central canal.—This Dr. Schultz considers in no way pathological. In some young spinal cords he found the central canal surrounded by a single layer of columnar epithelium; in others there was a growth of round cells around the canal, and in others the canal was completely blocked with round cells.

6. Neuroglia.—This in well hardened specimens is delicate and sharply defined with distinct Deiter's cells. In some cases, however, Schultz found it not clear, and with no cells visible. This he considers artificial, as the condition was accompanied by swollen ganglion cells and ill defined axis-cylinders. In six spinal cords, that is in 30 per cent, there were thin laminæ of fibrocartilage in the pia mater, and this not in

old spinal cords only, but also in those of young adults. It is probably a concomitant of natural or premature old age.

We have before us an admirable monograph by Dr. William Browning, of Brooklyn, on the veins of the brain and its envelopes. It consists chiefly of anatomical work done by Dr. Browning in the laboratory of Professor Braune in Leipzig, and will undoubtedly in future, be the authoritative exposition of this subject. The work contains numerous additions to and corrections of our knowledge of the cerebral veins, one of the principal corrections being as to the course of the Vena Galeni. This it has been the custom to regard as passing directly backward into the straight sinus. A moment's consideration of the relative position of the tentorium cerebelli and the posterior part of the corpus callosum, ought to have shown us that this could not possibly be the case, and this is clearly seen in the figure given by Dr. Browning, which shows the Vena Galeni passing backward and downward through the median part of the transverse fissure of Bichat, describes a circle upward round the splenium or posterior part of the corpus callosum, and so at its termination in the straight sinus "the sinus bears the same relation to the Vena Galeni which a tangent does to its circle." In other words, the Vena Galeni enters *against* the blood current, just as do the superior cerebral veins. Of this somewhat puzzling fact Dr. Browning gives a highly probable explanation in the backward development of the posterior part of the brain carrying its veins with it, and more especially by the late development of the corpus callosum extending backward, and so causing the Vena Galeni, as it were, to circumnavigate it. This explanation, as Dr. Browning states, is corroborated by the more straight course of these veins in the foetus.

Dr. Browning has also carefully examined the important subject of the anastomosis of the cerebral veins. As with the cerebral arteries, so with the cerebral veins, he has nowhere within the brain substance succeeded in finding a venous anastomosis. For details as to the superficial anastomosis we must refer to the original work, but we may state shortly that he proves an anastomosis (1) between the dural and cerebral veins, (2) between the veins of the vertex and those of the base, and (3) between the external veins, which join the

portio curvata of the Vena Galeni and the veins of the base. This last fact shows that "Galen's system of veins is not isolated from the other cerebral veins," but this statement does not apply to the internal veins which run in the choroid plexus and velum. These anastomose in the velum, but nowhere beyond, and thus while obstruction of the straight sinus and of the short common trunk of the Vena magna Galeni can be compensated for, obstruction of both the straight sinus and compensating basilar vessels, or of the trunks of the Venæ Galeni in the *portio recta* before they are joined by the basilar veins in the *portio curvata*, means cerebral softening and death.

In the *Neurol. Centrabl.* 1883, No. 10, Dr. Mendel describes a case of the Ape's fissure (*Affenpalte*) occurring in the brain of an idiotic girl eight years of age. Starting in the position of the parieto-occipital fissure, just in front of the transverse occipital sulcus, a deep sulcus ran transversely out, ending behind the posterior extremity of the parallel fissure, and thus entirely separating the occipital from the parietal lobe on its convexity.

This differs from the cercopithecus and cynocephalus in this region only in the fact that in these apes the intraparietal fissure and the parallel fissure pass further back, the first ending in the ape's fissure, neither of which was the case here. That it was really the ape's fissure Dr. Mendel believes was proved by the fact that on the median surface it communicated with the calcarine fissure in the usual way. Dr. Mendel gives a list of cases where this peculiarity was present, some associated with mental disease others not. He regards it as an arrest of development. The brain in this case was both smaller and lighter than normal. The frontal convolutions were very small, and the gyrus opercularis round the ascending limb of the fissure of Sylvius was very small, and (owing to the absence of the ascending frontal convolution) was in direct continuity with the ascending parietal convolution.

Regarding the question of the homology of the ape's fissure, whether it corresponds with the transverse occipital sulcus or with the parieto-occipital, or with both, as Schwalbe believes, Dr. Mendel has satisfied himself from vertical sections of the brain of cynocephalus sphinx that it corresponds with the parieto-occipital fissure, along with

a fissure running forward from it in the depth, termed by Meynert the external occipital sulcus.

For teaching purposes it is frequently important to have the brain of normal size and in a fit state for handling. We make no apology, therefore, for quoting a process for preserving it given by Germa:

1. The brain is hardened for fourteen days in a saturated solution of bichromate of ammonia.

2. It is washed and placed for one day in a mixture of carbolic acid 1 part, alcohol 1 part, water 8 parts, and glycerine, 10 parts.

3. It is washed and then allowed to dry in the air, and covered with three or four fine coats of varnish, the different parts being colored, if necessary, with variously colored metallic powders.

4. Over all is laid a coat of painter's varnish for preservation.

Notwithstanding that the function of speech has for many years been a favorite subject for physiological and pathological observations, there still remains much to be done before we can be said in any complete sense to understand it. Dr. F. Raymond and M. Artaud have recently made a painstaking and valuable contribution to the subject of the intracerebral course of the hypoglossal nerve. The groundwork of clinical fact and the inferences built upon it are so clearly and logically laid down that it is difficult in abstract to do justice to their work, which involves a wider range than the actual title of the paper. In writing their paper the authors had not been acquainted with that by Dr. Ross on Glosso-labial Paralysis of Cerebral origin, in *Brain*, July, 1882, and their results are, therefore, the more valuable as agreeing with his.

Affections of speech owing to paralysis of the muscles of articulation have been observed from:

1. Cortical lesions.
2. Lesions of the centrum ovale.
3. Lesions of the internal capsule and crus cerebri.
4. Lesions of the pons Varolii.

That a lesion of the posterior third of the third left frontal convolution should cause aphasia is now a well established fact, but that a lesion of the inferior part of the ascending frontal convolution produces glossoplegia or paralysis of the muscles of articulation is a fact not yet so well substantiated. Of this last the authors cite six

cases. In four of these the lesion was located in the inferior part of the ascending frontal convolution, right or left, the result being convulsion or paralysis in the muscles supplied by the hypoglossal of the opposite side from the lesion; and the third frontal not being affected, in no case was the disorder accompanied by aphasia. In two cases both aphasia and glossoplegia were present, the lesions being bi-lateral, and affecting both the inferior and ascending frontal convolutions.

From experiment and clinical observation, it would seem, according to Charcot and Pitres, that the inferior third of the ascending frontal convolution presides over the movements of muscles supplied by the inferior branches of the facial, and recently M. Lépine has reported cases of permanent trismus accompanying lesions of this area, or of the subjacent white matter. It forms, therefore, the cortical origin of hypoglossal, inferior facial, and motor root of the trigeminus.

Tracing the hypoglossal fibres downward Dr. Raymond and M. Artaud cite seven cases, one recently observed by themselves, of glosso-labial paralysis resulting from injury to the inferior frontal fasciculus of Pitres, arising from the part of the cortex above designated. While the principal symptoms of the bulbar paralysis of Duchenne, viz.: paralysis of the tongue, lips and velum palati, were present in these cases, the differential diagnosis is comparatively easy. The symptoms simulating Duchenne's paralysis are less marked, and differ in their mode of onset. In glosso-labial paralysis of cerebral origin, the symptoms begin abruptly, frequently with an apoplectic seizure, accompanied by fall and loss of consciousness, and when the attack passes off, cannot move the tongue or approximate the lips. These symptoms are sometimes accompanied by facial paralysis, hemiplegia and intellectual defects, such as are observed in cerebral softening, or by convulsions and epileptiform attacks.

In Duchenne's paralysis the disease is progressive, attacking successively the lips, tongue and soft palate, cerebral symptoms being absent, while, on the other hand, a group of bulbar symptoms are present which are wanting in glosso-labial paralysis of cerebral origin, viz.: laryngeal (progressive weakness of voice), pulmonary (attacks of suffocation), and cardiac (syncope). The first disease is also distinguished by the

presence of the reflexes, the absence of muscular atrophy, and the conservation of electrical excitability. Death results in the first from fresh cerebral hemorrhage or softening, or from intercurrent disease of lung and kidney; in the second, from an attack of dyspnoea or syncope.

The fibres of the inferior frontal fasciculus above referred to as arising from the inferior part of the ascending frontal convolutions, pass downward in the internal capsule at the genu which divides its anterior from its posterior segment, forming what the authors term the "geniculate" fasciculus, bounded in front by the "intellectual" fasciculus, and behind by the "pyramidal" or motor fasciculus (from the limbs), and the "sensory" fasciculus.

Without being able to render actual proof, Dr. Raymond and M. Artaud believe with a certain probability that the fasciculus of aphasia and that of glosso-labial paralysis pass down in different tracts thro' the internal capsule and the crus cerebri, the former occupying a position intermediate between the intellectual and geniculate fasciculi. As to the further course downward of the cerebral fibres of the hypoglossal through the Pons, the authors quote three cases which lead them to believe that they occupy in the pons the part internal and posterior to the motor pyramids.—*Brain*.

INTERMITTENT PULSE.—The phenomenon of intermittency in the pulse beat is one of such frequent observation that every practitioner is familiar with it, and places upon its occurrence a significance which varies within the widest limits. By some it is regarded as a very trivial sign, demanding a merely passing attention, while others again attribute to it an importance which it cannot justly claim, the fault usually committed being that of omitting to consider all the circumstances tending to its production, and influencing the effects to which it may possibly give rise. The reason why such discrepancies of opinion are noticeable in this connection probably lies in the fact that clinical teachers, during bedside demonstrations, vary much in their description of the phenomenon, for in our own experience we have heard exceedingly inconsistent accounts of what it portends, from different physicians who have been lecturing students in cases in which an intermittent pulse has been dis-

covered. That this should be so is a misfortune, since any confusion as to principles arising in the minds of those engaged in qualifying themselves for the practice of medicine only too surely perpetuates itself in their after professional life, leading, it is to be feared, to frequent errors in diagnosis and treatment, which can only be avoided by the possession of accurate and definite knowledge gained during the pupillary period.

In the presence, therefore, of so great a disagreement respecting the meaning of intermittent pulse, useful service is done by the publication of an essay on the subject by Dr. B. W. Richardson, in the current number of the *Asclepiad*, and which is written in a clear, precise and definite style, that will at once commend it to the doubting practitioner. In this paper Dr. Richardson arrives at the conclusion that intermittent pulse is a much more common symptom than it formerly was, and that the explanation is to be found in the increased emotional strain and excitement incident to our present mode of living, the affection being due to "nervous exhaustion of the vital nervous system." The detailed causation of the phenomenon, as demonstrated in an exhaustive essay which appeared from his pen in 1868, Dr. Richardson has briefly recapitulated in this later article. He continues; "In itself, when not present in an exaggerated degree, intermittency of the pulse is often less dangerous than it seems. It does not, as might be feared, carry with it the necessary idea of sudden dissolution from heart disease, for, as I have elsewhere shown, the heart is the regulator, not the prime mover of the circulation. The harmlessness of the symptom in its moderate development is shown by the fact of its common occurrence after middle age, and by the long duration of life in many of those who present it. At the same time the symptom has its significance. Occurring in infancy it is an important indication of serious nervous derangement. Occurring in young adults it has the same meaning and tells the story of commencing failure of power. Occurring suddenly after any great event which has told upon the mind, it may be a sign of very serious import."

By far the greater number of persons whose pulses exhibit intermittency are unaware of the fact, and only in cases where the intermittent period extends over as

many as five normal heart beats, or occurs often in a minute is consciousness of its occurrence produced, and such cases proceed along a certain course to death when this symptom is persistently present.

A most important point, on which Dr. Richardson insists most impressively, and which has a direct practical bearing, is that persons with intermittent pulse offer less resistance to disease, owing to the impairment of nervous energy, of which the pulse change is characteristic, and they also possess diminished power of recovering from surgical operations, as compared to persons of normal circulation, and for the same reason, as the author tersely puts it. The phenomenon has its general meaning, both for the physician and surgeon. It has also its particular meaning, since it may be raised into fatal consequences by disorders which need not, in its absence, prove fatal.

Intermittent pulse in children may pass away, but it is never got rid of when appearing for the first time at or past middle age, although it is not incompatible with the attainment of even extreme old age. One of Dr. Richardson's patients, who died at eighty-six years of age, was discovered to have this character of pulse when only forty-two. The symptom may be inherited; a case is quoted of an infant in whom it was distinguished an hour after birth, and now, twenty-five years after, the intermittency always appears under great strain or during depression.

On the subject of treatment in these cases Dr. Richardson, lays down a great number of valuable rules, which will be found of sound value by those who will be at the trouble of studying them. In children, especially, it is essential to avoid all intellectual and emotional strain, and to encourage the taking of a plentiful amount of sleep. In adults, too, equal attention should be paid to removing impressions derived from untoward events and to regulating diet and promoting repose. The "points of practice" dwelt upon in the paper are indeed exceptionally interesting and suggestive, and taken altogether it is a valuable contribution on an ill-understood question of medicine.—*Med. Press.*

THE VARIOUS FORMS OF CHOREA. — *Le Concours Médical.* — Trousseau preferred the term St. Guy's dance (*danse de Saint Guy*) as being a shade more definite and

specific than the term chorea (dance). The disease is frequently not seen by physicians at its beginning, its origin and primary symptoms are, therefore, unknown. It is described by Axenfeld and Huchard as "a complex neurosis of subacute or chronic progress, and most commonly occurring among children, its principal and characteristic being the almost incessant production of involuntary muscular contractions." Its development is usually gradual, beginning with certain phenomena of spinal irritation. Paralysis (motor) may be associated with the disease. It may precede the choreiform movements, or it may occur in the course of the disease, in the latter case existing as a hemiplegia or monoplegia. Troubles of sensibility are rare, although cases have been reported in which there have been painful points (*points douloureux*) like neuralgia, and localized pains near the extremities of certain bones. The moral and intellectual faculties may be perverted even to insanity. Attacks of palpitation of the heart are not infrequent, possible causes being excitation of the cardiac muscle or the existence of a condition of chloro-anemia. The co-existence of this condition with heart disease, rheumatism, and certain morbid conditions of the skin has suggested a rheumatic origin, but this explanation is not generally accepted. The ordinary type of the disease is sometimes found in adults, in aged persons, and in pregnant women, and is apt to be of more serious significance than when it occurs in children.

Differing from the ordinary forms of chorea (St. Vitus' dance, St. Guy's dance) are the forms chorea electrica and chorea hysterica. The choreiform movements of hysterical individuals may be associated with ovarian anesthesia or hyperesthesia. According to Huchard they manifest certain rhythmical movements of a constant type, and from the peculiarity of these movements three varieties of hysterical chorea are derived, which Huchard calls respectively saltatory, salutatory and rotary.

Chorea electrica, or Dubini's disease, is characterized by muscular jerkings, like those which are produced by the electric current. It may be fatal after a few weeks' duration. Its nature is not yet positively determined upon, different writers having suggested an abnormal meningitis, a peculiar form of cerebro-spinal typhus (Jaccoud)

or a variety of paludal intoxication (Stefanini).

Another type of chorea, with sharp and rapid involuntary movements, is sometimes taken for Dubini's disease. See considers this as a manifestation of hysteria or of nervousness, characterized by rhythmic spasms. He gives it the name of rhythmic pseudo-chorea.

Yet another form of the disease is hemichorea, which is associated with hemiplegia, though in some cases the hemichorea precedes rather than follows the hemiplegia. To this form the term preparalytic hemichorea has been given.

Finally, a form of post hemiplegic hemichorea is recognized in athetosis, a disease which was first described by Hammond.—*Archives of Pediatrics.*

ON THE ALTERATIONS OF CORTICAL EXCITABILITY BY COLD APPLIED TO THE SURFACE OF THE BRAIN. By H. De Varigny, M.D., Paris, in *Brain*.

Although several physiologists have already investigated this question, there does not seem to be any general understanding as to the interpretation of the results obtained. I have already made some ten or twelve experiments concerning this vexed question, and I made them — purposely — before acquainting myself with the conclusions reached by others, but knowing the methods on which they proceeded in their experiments.

M. Marcacci, an Italian physiologist, has investigated the subject, if not thoroughly, at least more so than any one else. His experiments are described by himself in the *Archives Italiennes de Biologie*. They were intended to be used as facts in support of, or—as the case might be,—against the theory of experimental excitability of the gray matter of the brain. The nervous tissues, and especially the gray matter, must be considered as the most exalted of all the tissues, the last to be evolved, the one the functions of which are the most perfect and complete. It must also be the most delicate, that is, the one injury to which is of the most consequence to the organism, as well as the one most easily injured.

It is known in a general manner that all tissues die rapidly when submitted to the influence of a certain degree of cold or of heat. M. Marcacci believes that the same is true of the gray matter, and we all agree

in this, though not being certain which degree of cold, for instance, is enough to deprive the gray matter of its vitality.

But we do not know positively whether cold applied to the surface of the brain in the way in which M. Marcacci applies it does really kill the brain elements; in fact, I do not believe it does, nor do I believe I killed them in my own experiments, conducted in the same manner as M. Marcacci did. This author says — and it is true — that by pulverizing ether or other liquids, such as chloride of methyle, on the brain surface, one may obtain 20, 30, or even 40 degrees below Zero (Centigrade).

It is true that if such liquids are pulverized upon a thermometer the cold may be intense enough to bring the mercury down to -30° or -40° , but are we sure that the same process can freeze the brain surface? I have often pulverized ether upon this surface during ten and twelve minutes continuously; I never found the gray matter frozen, the blood did not cease to flow in the vessels, and the temperature always returned to its normal degree in a few minutes.

The surface was certainly cold after pulverization but it never remained so. I think it must be a very difficult process to really freeze the cerebral matter, even to a half or quarter of an inch in depth on the living animal. After my own experiments I feel quite sure that I never froze the brain surface, nor even was near doing so, and I do not think the case to have been different with M. Marcacci. He shows that the pulverization of ether, etc., on the brain surface does not interfere with the excitability of the same, it even seems that the excitability in some cases is increased. M. Marcacci concludes that when the brain surface is excited (with electricity) the motor results are to be ascribed, not to the excitation of the gray matter, since its movements are obtained even where this matter is [thought to be] frozen, but to the excitability of the subjacent white tracts. I have already discussed the results obtained by M. Marcacci in my work on the electrical excitability of the brain. I shall not go over them again here. But I must remark that this observers conclusions do not logically follow from his experiments. He shows that motor results are still obtained when the gray matter has been submitted to the influence of cold; we admit this, it shows that if the gray matter is paralyzed

the white one is not, but does it prove anything more? Does it show that the gray matter is necessarily and always unexcitable?

In my own experiments I have worked on dogs and used the ether spray. The way I proceeded was the following. The dog being narcotized with chloral (intravenous injections) and the brain being exposed, I ascertained exactly what strength of current was necessary to obtain a motor reaction of the fore-leg, for instance, and also the time required for the occurrence of this reaction—that is, the time elapsing between the moment when the brain was excited and the moment the motor result began, in short, the latent time of reaction. When these two points had been accurately ascertained, I began pulverizing ether on the brain surface, doing all I could to refrigerate the motor centres of one leg only, for instance, without injuring that of the other. When refrigeration had been going on for five, ten or fifteen minutes, I ascertained whether the motor center could be excited, with what current strength, and with what latent time. * * *

Generally speaking, after a five to ten minutes' pulverization, excitability disappears or only diminishes. It can always be made to disappear if the spray be kept on long enough. After some while, if the cold has not been too intense, it reappears slowly and may become even greater than it was before. At any rate, I have seen a five to ten minutes' pulverization injure the cortex cerebri so that recovery of excitability—transitory, perhaps—became impossible. M. Marcacci must either have used very strong currents, capable of exciting the white tracts when the gray matter was paralyzed, or—as I should feel inclined to believe—really did not paralyze the gray matter. I do not see how to explain otherwise the interesting results this physiologist has obtained. I can not say anything definite as to the length of the latent time after the return of excitability, I have generally found it about the same, sometimes a little longer, and once much shorter.

DIAGNOSIS OF PLEURITIC EXUDATIONS BY THE TUNING-FORK.—The following are Dr. Federico's conclusions relative to the utility of the tuning-fork in the diagnosis of pleuritic effusions and exudations (*Gazzetta Medica di Roma, Medical Record*, July 5th, 1884):

1. If the vibrating tuning-fork be applied to any part of a normal thorax, a full, distinct and augmented sound will be the result.

2. When made to vibrate while in contact with thoracic parietes within which there exist an effusion, and particularly if placed over that portion of the chest where the dullness on percussion is most marked, the tuning-fork emits a short, obscure and muffled tone.

3. The sound is shorter and more muffled in proportion as the fluid is more abundant.

4. Although the author has, thus far, only experimented with serous effusions, he inclined to the belief that the sonorous vibration of the instrument would be still more weakened and obscured if the effusion were rich and had corpuscular elements. This theory derives support from the fact, experimentally demonstrated by the author, that the vibrations of a tuning-fork immersed in a watery fluid contained in a thin vessel are communicated to the receptacle, while the vibrations cease to be perceptible when the serous fluid is replaced by purulent one. The author recommends the adoption of the following precautions in the application of the tuning-fork to its proposed diagnostic use.

1. The instrument should be placed in contact with corresponding parts of both the normal and diseased half of the thorax, for purpose of comparison.

2. An instrument with long branches facilitates the perception of slight variations in pitch and quality.

3. The vibrations imparted to the tuning-fork should be of moderate intensity, lest they be transmitted to the stomach and colon and be thereby unduly augmented.

4. A certain amount of force should be employed in holding the instrument in contact with the chest-wall, as vibrations are not well transmitted if this precaution be omitted.—*Medical Review*.

CHLORATE OF POTASH AND DIPHTHERIA.—Hullman (*Deutsche Med. Wochen.* No. 46) has not lost his faith in this substance as a means of treatment in diphtheria, notwithstanding the fact that it may not have done well in others hands when given in poisonous doses. He never uses a stronger than a four per cent. solution, and never combines its internal use with its use as a gargle. He has never seen unfavorable

kidney symptoms in his practice from its use, and combines it with plenty of nourishing food and good wine. During 20 years he says he has used it in 3,511 cases, 571 of which were cases of diphtheria. Only six of the latter were fatal, or about one per cent. In patients from one to two years of age the doses never exceeded one gram each day; in patients from six to thirteen years of age the dose varied from three to four grams daily, and in adults as much as eight grams daily were sometimes given. These quantities were often continued from six to eight days successively. In cases of diphtheria, in addition to the internal use of chlorate of potash, frequent garglings were prescribed of lime water, soda solutions, or weak solutions of hypermanganate of potash, the results being quite satisfactory. The author believes that chlorate of potash is the best of all the agencies that have been used for the treatment of diphtheria, especially when it is given in accordance with the directions of Mering, the chief of which is that it must not be given on an empty stomach. — *The Archives of Pediatrics*.

NERVOUS DERANGEMENTS OF THE HEART.

In the *Lancet*, June, 1884, p. 1068, Dr. Milner Fothergill divides diseases of the heart proper into—1. valvular; 2. muscular; and 3. nervous. It is with the nervous affections of the heart that the paper chiefly deals, and the first of these is pure intermittence—a halt in the usual rhythmic stroke of the ventricles. It is very commonly met with in old or elderly men, and, if associated with organic disease, may occasion groundless alarm. It is a mere disturbance of rhythm, and, as far as our present knowledge goes, has no significance, unless found with other signs of degenerative change; then it has a significance, which, however, is borrowed from them, rather than furnished by itself. When intermittence is increased by effort, then it is well to examine the condition of the circulatory organs. When it is found with irregularity of rhythm, and this becomes more pronounced on exertion, the author states that then it is nearly certain that there is something more than a mere 'neurosal halt.' Another common neurosal disturbance of the heart is palpitation. Nocturnal palpitation is common in women at the menopause, where there is a suspicion of gout. In some cases it is

brought on by coitus, in others it may be relieved by the sexual act. Palpitation may be set up by some abnormal condition existing elsewhere. A displaced uterus may be the provoking cause; and until the organ is once more in its normal position, little relief is obtained from treatment. At p. 1112 he describes a form of neurosal derangement of the heart which he terms 'the badly behaved heart.' It is mostly met with in women; the heart's action is persistently and continuously tumultuous, and there is a great deal of actual palpitation at times, with intervals when the heart's action is quieter, but never calm. The author concludes by drawing some broad distinctions between organic disease and neurosal affection of the heart. Organic change reveals itself in two ways: 1st, by signs discoverable upon physical examination, and 2d, by physiological indications of the effects of effort—as shortness of breath upon exertion, for instance. In neurosal affections there are no such evidences; the heart on examination is found normal except there is some perverted action. In the 'irritable' heart, however, there is a certain amount of inability to bear any strain. The author lays stress on the statement, that a neurosal affection of the heart never develops into organic disease as a process of development. — *London Medical Record*.

PTOMAINES.—Professors V. K. Anrep and A. V. Poehl, of St. Petersburg, sum up (*Vestnik Sudebnoi Meditsiny ce Obshchestvennoi Hygieny* [*The Herald of Forensic Medicine and Social Hygiene*], 1884, vol. 1, pp. 1-29) an interesting article based on their own investigations and a full review of the literature, as follows:

1. Putrefaction, fermentation, and other as yet indefinable alterations of albuminous substances, are accompanied by the generation of alkaloid-like bodies, ptomaines.

2. The number of ptomaines is very great, and their chemical and poisonous properties are very different.

3. There are known fixed and volatile, fluid and solid, amorphous and crystalline ptomaines. It is interesting to note that all fluid ptomaines, like all fluid vegetable alkaloids (with the exception of pilocarpine) do not contain oxygen.

4. Almost all ptomaines change red litmus to blue, and syrup of violets to green.

5. Like alkaloids, they form salts with

acids, the formation proceeding without giving off water (again similarly to alkaloids and ammonia).

6. In regard to their solubility, ptomaines behave very differently; some of them being soluble in water, others in ether, alcohol, benzine, chloroform, and amyl-alcohol. Ptomaine-salts are easily soluble in water.

7. Some ptomaines are tasteless and colorless; others possess an intense bitter taste or aromatic sweetish odor; and others again evolve a cadaveric odor, or one resembling coniine or nicotine. When treated with acids, they sometimes emit a pleasant floral odor.

8. Ptomaines obtained from rye-meal which has been subjected to fermentation, give the same reactions as the ptomaines of any other extractions. These reactions are as follows: (a) A solution of iodide of potassium with biniodide of mercury produces a whitish precipitate in ptomaine-solution slightly acidulated with hydrochloric acid. Twenty-four hours later, microscopic examination detects that the precipitate consists of minute prismatic crystals. (b) A solution of iodide of potassium, with iodine being added to an acidulated ptomaine-solution, produces either a flocculent or a finely granular red-brown precipitate, which is insoluble in diluted hydrochloric acid. (c) A solution of phospho-molybdenate of soda gives a yellowish amorphous precipitate which is insoluble in diluted nitric acid, but, on the addition of liquor ammonia in excess, at first takes a blue-green color and afterwards dissolves, giving either a bright blue or a green solution. The blue color is mostly observed during the first stages of putrid decomposition. The original precipitate produced by phospho-molybdenate of soda, on being heated, assumes a green color, without any addition of ammonia. (d) Phospho-wolframic acid (prepared after Scheibler's method) gives whitish or greyish precipitates which are insoluble in diluted sulphuric and hydrochloric acids, but easily soluble in ammonia. (e) A solution of tannic acid gives a white precipitate; the latter does not appear if tartaric acid be present. (f) A solution of iodide of potassium with iodide of bismuth in presence of diluted sulphuric acid, gives a yellowish precipitate, part of which passes into solution on heating, and reappears again on evolving. (g) A solution of iodide of po-

tassium with iodide of cadmium sometimes produces precipitates which are soluble in the excess of the reagent, and which, by degrees, assume a crystalline structure. This reagent precipitates the products of the first stages of putrefaction; later on in the course of the latter, there appear some products which are not precipitated by iodides of potassium and cadmium. (h) In some cases, a solution of corrosive sublimate gives precipitates which gradually take a crystalline structure; in other cases, however, ptomaines are quite indifferent to their reagent. (i) A solution of chloride of platinum gives, with some of ptomaines, precipitates which are usually crystalline and soluble in hydrochloric acid, and consist of a double salt (chloride of platinum plus chloride of ptomaine). Similar double salts are given by chlorides of gold and zinc.

9. Ptomaines are optically inactive bodies.

10. The color-reactions of ptomaines are as various as those of vegetable alkaloids.

11. In the course of a forensic chemical examination, it is advisable to discard the use of sulphuric acid, and to use tartaric acid. The further treatment is to be performed after Dragendorff's method. — *London Medical Record*.

RAW FOOD EXTRACTS AND THEIR VALUE. —

An essay read before the American Medical Association, at Washington, D.C., May 9, 1884, by B. N. Towle, M.D., of Boston.

Molescott's dictum is suggestive, "Without Phosphorus there is no thought."

So without nutrition there is no life.

Life may be defined as an aggregation of molecules possessing the properties of respiration, circulation and nutrition.

Each of these properties being necessary to all forms of life, the perfection of that life relies upon the completeness of the conditions on which these properties depend.

Either of these properties being imperfect or vitiated the perfection of the organism is impaired, and the life jeopardized.

Pure air in abundance must be supplied.

A perfect circulatory system to carry the pabulum to the remotest atom of the organization, and a fluid bearing on its bosom nutritive material suited to the wants of the most delicate tissues, is a uniform necessity to health and vigor.

From the food the blood is fed, and from the blood the various tissues are built up; therefore, the blood of a healthy animal contains all the nutritive material necessary to the production of a perfect organization.

If the blood is deficient in pabulum for any tissue, the organ to which that tissue belongs be-

comes disordered, and the whole system suffers from malnutrition.

The cause of this deficiency may be insufficiency in quality, in which case particular tissues suffer first and most; or it may be deficient in quantity, and the whole system suffers together. Again, the food may be abundant in quantity and perfect in quality, and if there is want of power to assimilate even one aliment of it, the result is malnutrition, and wasting disease the unavoidable consequence.

Persons suffering from tubercular consumption or chronic disease of any of the vital organs may be fed on the most nutritious food, and it may be prepared in the most approved ways known to the culinary art, and taken in quantities sufficient to nourish them, and yet they grow thin continually, with food in their stomachs, because of a want of power to digest certain aliments of it, as starch, sugar, fats, or the albuminoids, and the tissues to be fed by these aliments starve, and the whole system is thrown into disease.

It matters but little whether it be faulty diastatic action and the starch not perfectly changed into digestive sugar, or whether it be imperfect peptones, and the albuminoids not properly digested, or insufficient action of the pancreatic and liver ferments on the fats—the patient suffers all the same from malnutrition.

For faulty diastatic action we have no practical remedy.

Soda will relieve the action of the stomach and aid in forcing along the remaining starch to be acted upon by the pancreatic juice.

Pepsin and hydrochloric acid will, in some cases, aid slightly the digestion of the albuminoids, but aids for pancreatic insufficiency in the way of artificial pancreatic ferments, every attempt is worse than a failure.

All artificial digestive ferments, when absorbed as such, are poisonous.

Sulph. ether is a direct stimulant to the pancreas, and increases its secretions, and assists in the emulsification of the fats of the food, and is invaluable in the treatment of consumptives when both starch and fat are not well digested.

It may be truthfully stated that all chronic wasting diseases are the results of bad digestion, or attended with it, and that the great result to be accomplished first, and without which all efforts fail, is to correct this defect.

Nervous debility and neuralgia are often the results of nerve starvation. They are now more than ever the dread of every intelligent physician and the terror of all business men. The weary hours of pain, and the sleepless nights of those suffering from nervous diseases, are the beseechings of an exhausted nerve for food. Hungry and starved, they make their wants known by the pain they set up as their only agonizing cry, and no medication can give permanent relief until the hunger is satisfied.

Having these facts before us in what direction does the medical science point us? Surely there is but one rational plan, and that is in the direction of food suited to the digestive condition of the sufferer.

Our research, then, must be to find a more easily digested and assimilated food.

Observation seems to sanction the fact that veg-

etable food elements are more readily assimilated by persons of feeble digestion than are the animal food elements, and especially when they have undergone the digestive process in the stomach of an ox or sheep.

The blood of these animals, when healthy and fat, must contain all the food elements in a state of solution most perfect, and freed from all the insoluble portions, and hence in a form more easily assimilated than any other known food.

I have used Blood Food or Raw Food Extracts for more than four years, in a large number and variety of cases, and in no case of malnutrition has it failed to give relief.

I have given it to patients continuously for months, with signal benefit, especially in complicated cases of dyspepsia attended with epigastric uneasiness arising from innervation, and in nervous debility of long standing. The sudden and full relief this Food affords patients who have a constant faintness at the stomach, even immediately after taking food, shows how readily it is assimilated. This faintness is a form of hunger, and is the cry of the tissues for food, not quantity but quality,—a food that the famishing tissues can appropriate and thrive upon.

Raw Food is equally adapted to lingering acute disease. I have used it in the troublesome sequelæ of scarlatina, where there was exhaustion from abscesses in the vicinity of the carotid and submaxillary glands; and in protracted convalescence from typhoid fever, with marked advantage. The cases that I especially value it in are laryngeal consumption and nervous exhaustion, in which cases there is always more or less derangement of the digestive tract, as pain in stomach, constipation, eructation of gases distress after taking food, etc. Raw Food should be taken with each meal, the patients taking such other food as they can readily digest, in quantities suited to the individual case.

It adds much to the nutrition of the patient, overcomes the constipation, subdues the nervousness by increasing the strength, and is just the amount added which is required to secure success.

Intelligent prescribing of drugs implies first a knowledge of the power of the drug over certain forms of diseased action; second, a clear understanding of the nature of the disease, then the dose pushed until the work is accomplished.

The same is true of nutrition. Nearly enough will not satisfy. The full meal only satiates. Raw Food added to the ordinary meal of invalids very often accomplishes the full meal and is the satisfying portion.

The therapeutical test of any remedy is its clinical results, and not pathological theories.

BOSTON, May 14, 1884.

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Respectfully yours

B. N. TOWLE, M.D.

Bibliography.

A MANUAL OF PSYCHOLOGICAL MEDICINE. (1)

This is a pretentious volume of 799 pages, in which the author says he has "endeavored to present to the profession the subject of insanity and allied nervous diseases in a scientific, clinical and forensic light."

He also says in the preface (the most strikingly original part of the book): "The many kind words of encouragement which have attended my professional labors, researches and monographs, * * * * from Prof. Oliver Wendell Holmes, Dr. Pliny Earle, and others in this country, also from Dr. L. S. Forbes Winslow, London, England, encouraged me to believe that this book, * * * the outcome of practical experience in the field of psychiatry and neuralgia, will be welcomed by general practitioners and students of medicine, etc. etc."

That the author of this book has been a voluminous reader rather than a close thinker, is evident. Were all the mere "padding" removed from the book, it would be but a thin volume indeed.

Diffuse and inconclusive in all subjects considered, its style is placid and suggestive of repose.

It lacks the masculine brusqueness of Hammond, the aggressive self assertion of Spitzka, its rivals in the field of "psychological medicine" (and publishing-house enterprise), but it is a more useful book than either. As the production of an American physician, it would delight us to be able to classify it as superior to or equaling the comprehensive yet concise treatise of Bucknill and Tuke, the light of which this volume faintly reflects; or with the latest and best production of British learn-

1. A Manual of Psychological Medicine and Allied Nervous Diseases, containing the Description, Etiology, Diagnosis, Pathology and Treatment, with especial reference to the clinical features of Mental Diseases and Allied Neuroses, and its Medico-legal Aspects, with a carefully prepared Digest of the Lunacy Laws in the various States, relating to the care, custody and responsibility of the Insane, designed for the general practitioner of Medicine. By Edward C. Mann, M.D., Member of the New York Medico-Legal Society. With Photo-type plates and other illustrations. Philadelphia: P. Blakiston, Son & Co. 1883. Price \$5.00.

ing and experience, Clouston's "Clinical Lectures on Insanity," or in its treatment of "allied nervous disorders," with the unrivalled work of Dr. Ross. But we are denied such enjoyment, and must be content to advise all students and practitioners of medicine who cannot find a copy of Bucknill and Tuke's "Psychological Medicine" nor a copy of Clouston's "Clinical Lectures on Insanity," to buy the book of Dr. Mann's. It contains a great deal of information of one kind and another, and its discussions are harmless. E.

POST-NASAL CATARRH AND DISEASES OF THE NOSE CAUSING DEAFNESS. (2)

Perhaps it is owing to the coal dust and other impurities in the atmosphere, perhaps it is on account of the changeable weather, or it may in some way depend upon the location of the city, for, whatever the cause, it is a well known fact that post nasal catarrh is one of the most prevalent diseases in Cincinnati. Pittsburg is another favorite place for it. This is a fact that is fully appreciated by the charlatan, as is shown by the great number of "catarrh specialists" in this city and the numerous advertisements of cures. The business of the pretender is made all the better because the regular practitioner does not, as a rule, pay sufficient attention to this class of cases. Our colleges do not generally furnish liberal instruction, except in their clinics, in this branch. We are, however, pretty well supplied with literature on the subject of catarrh. The book before us is a part of the third edition of the author's large work on the diseases of the respiratory passages, and was published as a separate volume because it was thought that it would be more useful in that form. It contains the necessary information that is not usually found in textbooks on diseases of the ear. "It is through the medium of catarrh that ear disease is most frequently initiated," we are told, a fact that is too often overlooked, both in diagnosis and treatment.

While there is much in the little book for which the author would not claim ori-

2. By Edward Woakes, M.D., Senior Aural Surgeon, and Lecturer on Diseases of the Ear, London Hospital; Senior Surgeon Hospital for Diseases of the Throat, London. Illustrated with wood engravings. Philadelphia: P. Blakiston, Son & Co. 1884.

ginality, there are many points which have not been given just as they are given here, and some are new. In regard to the etiology of post nasal catarrh, great stress is laid upon the agency of reflex vaso-motor stimuli conveyed from other parts, it may be from distant parts, chiefly by the sympathetic and its communications, the locus minoris resistentiæ being supplied chiefly by hereditary influences.

The second chapter is devoted to what the author designates the "pre-catarrhal state." "The condition of susceptibility to take cold," he says, "implies the operation in the system, for a longer or shorter period, of certain morbid processes, the combined effect of which produces the pre-catarrhal state." Among these processes are hereditary syphilis, in either the immediate or remote ancestors; inebriety, errors in diet or dress, or climatic influence. As a common error in diet, especially among children, the author refers to the ingestion of large quantities of hydrocarbons, causing improper digestion and the engorgement of the portal circulation with irritating matters, or, in the language of the author, "Thus it appears that while *maltose* and *dextrose* are the pre-assimilable products of the normal digestion of the hydro-carbon, starch and sugar, the amyl-

olytic disintegration is exceeded later on, and the lactic and butyric acid make their appearance. These acids are also derivable from the disintegration of excess of proteid material, with the addition of urea, during the last stages of pancreatic proteolysis. * * * It appears, moreover, that these processes are immediately under the control of the vaso-motor system of nerves, and Gamgee intimates that the nerves proceeding to the liver from the inferior cervical and stellate ganglia are pre-eminent in this respect."

The third chapter is entitled "Taking Cold," and in it the author shows how, the resistance of various ganglia being diminished by the influence just referred to, the individual is much more liable to take cold upon the slightest exposure.

The anatomy of the post nasal space, together with the means for its inspection, is next described. Then follows a treatise on all the various forms of catarrh, with their diagnosis, pathology and treatment.

Throughout the work the author shows himself acquainted not only with his subject, but also with the literature that has preceded his own writings.

J. M. F.

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BACILLUS TUBERCULOSIS—VIEWS REGARDING THE DIAGNOSTIC AND PROGNOSTIC IMPORTANCE OF ITS PRESENCE IN THE SPUTUM.

GÖTTINGEN, July 29, 1884.

Editors Lancet and Clinic:

Can it not now be accepted as an established fact in the general pathology of phthisis pulmonalis, that all forms of this disease are of tubercular origin? All recent investigations and researches in this field certainly seem to me to establish more and more the truth of this statement. The original distinction of Virchow, separating the caseous pneumonia and caseous bronchitis from the true tubercular form of phthisis, must still be partially upheld on account of descriptive anatomical reasons; nevertheless, this division of processes must be abandoned, not only from existing histological relations, but more especially from an etiological and practical point of view. A careful microscopic examination already showed a similar histological character of the elements in both the forms of caseous pneumonia and bronchitis as in the so-called true tubercle. *In all forms of phthisis, even in the non-apparent tubercular varieties, we always find the characteristic sub-miliary, non-vascular nodules with giant cells which are typical of the fully developed tubercle.*

These formerly unknown characteristics of morbid anatomy of phthisical lung have certainly at present much limited Virchow's views of duality of phthisis; the everyday occurrence, for instance, of tubercular pleuritis complicating a case of caseous pneumonia could not any longer be explained as the onset of a new disease (as Virchow and followers taught), but was solely to be explained as an extension of the same morbid process existing in the lungs to its investing membrane. It seems strange that this simple and self-evident explanation of the process, compared with the former views, was so long in becoming established,—yet such was the case.

Several years later Charcot and his school then claimed from original and similar observations to have discovered the "unité de la phthisic", and Rindfleisch, in his article upon the subject, arrived at similar conclusions. Finally, Cohnheim and others in still later years in their ex-

perimental investigations showed the inoculability of the tubercular virus, and then Koch's great epoch, making discoveries proved beyond the peradventure of a doubt that phthisis and tuberculosis had a common etiological factor and only in very exceptional cases do other causes complicate the morbid change.

Pulmonary consumption must therefore be considered to be in by far the majority of cases a local tuberculosis of the lungs. Consequently, if we find those parasites (which we know to produce tuberculosis) in the sputum, we must draw the conclusion that a tubercular process is taking place somewhere in the respiratory apparatus (including mucous membrane of mouth and throat). But must we likewise infer that a general tuberculosis will of necessity result sooner or later and the case prove to be a literally hopeless one? No, that would indeed be a grave mistake, for the bacillus is not only found in those cases of tuberculosis in which the process is spreading more or less rapidly, and, eventually, by entering blood and lymph channels, is extended over the entire organisms, but likewise in those less severe cases in which it has for years and tens of years been latent (even finally entirely disappeared) in those varieties known as "localized tuberculosis."

In this respect the human organism seems to differ materially from that of the lower animals (experiments upon rabbits and guinea-pigs proving that inoculation, for instance, in the anterior chamber of the eye, with the tubercular virus produces tubercular deposits in the bulbs and general infection rapidly following, the animal perishing from its effects), while in man it is a settled pathological derivation that the process may run for a long period a relatively benign course and even terminate in the disappearance of the original tubercular deposits. It is true that as long as the nidus remains there is always danger of a sudden increase of intensity of process and without any cause that we may determine takes on a sudden local or general extension. The human body, however, appears in the majority of cases to be only a tolerably fertile soil for the bacillus, so that they multiply but sparingly, but if under certain (to us as yet unknown) conditions there takes place a rapid development of the parasites there follows necessarily a rapid extension of the process. At present we do not as yet possess a knowledge of those

pathological conditions which in many cases retard the development of the germ; could we but create them we would have established the greatest advance in modern therapeutics, viz.: the successful treatment of tuberculosis, and although we have at the present time not solved this great problem, the paths to its successful attainment have already been partially opened and we may hope that this high aim will be reached by the continued diligent labor of the investigators in the near future.

Now, when we find the bacillus in the sputum, we at once prove that a tuberculous process exists, which perhaps may by rapidly extending local destruction and conveyance to other organs become eminently dangerous to life, but again which may run a very slow bland course, the original deposit even undergoing secondary degeneration and disappearance.

The diagnosis of pulmonary consumption, verified by presence of the bacilli, is now often made, when formerly only a doubtful one was possible. The bacilli are found on the surface of every, even the smallest, phthisical cavern, on tubercular defects of the bronchi, etc., in large numbers. They are found much more easily and readily in the sputum than the elastic fibres, by means of which only heretofore destructive processes in the lungs were ascertained, because of their well-marked properties of taking up certain coloring agents, by means of which they are at once brought into prominent view possessing their characteristic outlines and isolated colors. We can, therefore, by a careful examination of the sputa, recognize those numerous lighter cases of phthisis which terminate favorably and were formerly diagnosed as "*suspicious*" pulmonary catarrhs, bronchitis, etc., indeed even those cases which exhibit only slight subjective symptoms. And we see best from the dissecting table how eminently numerous are these cases of phthisis with a favorable termination. In apparently healthy, strong individuals, adults, who have met their death suddenly from some accident, acute disease, etc., we find by a more searching investigation in almost *half of all cases* the signs and remains of a phthisical destructive process in the lungs, and that in the form of cheesy, often calcareous, incrustated masses, with cavity formation, surrounded by indurated cicatricial tissue. Now many of these cases have run their

course perfectly latent, at least the majority of them have never caused the slightest suspicion of a pulmonary affection; but, again, in each and every one, the bacillus tuberculosis could have been proved to have been present at a certain time.

However, that from these cases, to outward appearances terminating favorably and the process involving but a small area, there can suddenly develop a tubercular pleuritis, indeed a fatal tubercular meningitis, etc., is well known to all experienced physicians and is only too often proved by clinical practice and subsequent autopsies.

Having detected presence of the bacilli in the sputum we are always forced therefore to make a grave but not of necessity fatal prognosis. For it is a well known fact, that even rapidly spreading phthisical destruction in the lungs under favorable circumstances may come to a halt and that not every case of phthisis incipiens must cause great destruction of pulmonary tissue. The detection of the bacilla in the sputum is of especial and increased value in diagnosing tubercular affection from the fact that they are already found in the early stage of the disease when other signs and symptoms are not well marked; (we find this to be the case in our clinics and polyclinics here at Goettingen from careful observation) of great importance I wish to add, as in the treatment everything depends upon the diagnosis and consequent steps being taken in the *earliest* stages of the disease when the lives of many patients can be saved by combating its future ravages by the only means we as yet possess that is proper regimen, hygienic surroundings, mode of living climate influences etc. The relation between the quantity of bacilli in the sputum to the severity of the pathological process has not yet been definitely determined to any degree of certainty.

But on the other hand the constant absence of the tubercle-bacillus in the sputa may be assumed as a certain proof that tubercular-phthisical destructive changes are not then occurring in the pulmonary organs. If elastic fibres are found in the sputum and no bacilli we are forced to conclude that other destructive processes such as degeneration of tumors, opening of abscesses, etc., are going on in the lungs.

We must not forget to mention, however that certain chronic ulcerative processes occur in the lungs that are not of tubercular

origin and consequently no bacilli are found, these cases are very exceptional and embrace those diabetic sloughing processes of the pulmonary parenchyma first described by Reigle; but in the majority of the diabetic phthisis cases abundant bacilli are found. The pathological change resembles very much in those cases in which the bacilli are absent that occurring in the ordinary form of tubercular phthisis.

In the examination of the sputa for bacillus-tuberculoses, it ought to be understood that only the best methods, those that give the most accurate results should be employed. It is quite true that they can be discovered in some specimens with low magnifying glasses, indeed if they are very numerous they can occasionally at once be recognized with the naked eye itself by their power of taking up certain colors but in spite of these known facts it would be a great mistake to use any but the very best immersion lenses in bacillus-tuberculosis researches, as it is quite a common occurrence and we often have had the experience here in the laboratories, that the bacilli present in the specimen prepared for the microscope are not found in the field by means of the weaker lenses (viz. dry lenses) yes, entirely overlooked, but are at once clearly visible when higher magnifying lenses (lowest we use is 600) are employed instead. It is at least quite impossible to form a definite negative opinion in regard to the bacillus tuberculosis without the use of the best immersion system of lenses, above all the oil-immersion and Abbe's apparatus so highly recommended by Koch. He who fears the expense of these most necessary auxiliary means and the increased amount of more accurate labor should at once withdraw from the field of schizomycete investigation, as without them his derived results will be of comparatively little value and of very doubtful significance.

The manner in which we find and color bacilli rapidly and obtain the best results and specimens is a modification of the Koch-Ehrlich-Orth method, and may be given as follows:

1. Spreading out of the sputum on a black painted plate and picking from this an opaque whitish or grayish white particle by means of two platinum needles (brought to a glowing heat just before using).

2. Spreading or rather rubbing up of the particle between two, (resp. more,) cover

glasses of 13-18 m.m. thickness so that a thin, even layer is obtained about as thin as required in blood examinations. The cover glasses are not to be lifted but rubbed apart.

3. Then the cover-glass is carried through a spirit lamp three or four times and about as rapidly as the knife is moved in the act of cutting bread.

4. A few minutes shaking up of aniline oil with distilled water in about the proportion of 5-100, then filtered through a moistured filter into a porcelain dish (aniline water).

5. Addition to above solution of a filtered over-saturated one of gentian violet in 90° alcohol, until a well marked opalescence occurs and then thoroughly stirring mixture with glass rod (For every 10 c.c.m. of aniline water about 15 drops of the gentian violet coloring solution are required).

7. Now we either allow the prepared cover glasses to swim on the surface of this solution for twenty-four hours (if longer no harm is done) or we place the porcelain dish with the swimming glasses (I usually make six specimens from one sputum) on a triangle covered with a wire net over a spirit lamp and continue to heat until small bursting, bubbles form on the surface of the fluid or speaking more accurately and thermometrically up to 80° c. and then let them stand for a few minutes.

7. Removal from the liquid and prepared as follows: having removed the coverglass with a small forceps, we absorb the now unnecessary coloring solution from the surface by means of blotting paper and dip it into a solution of Hydro-chloric alcohol (100 c.c.m. alcohol, 20 c.c.m. distilled water and 20 drops concentrated Hydrochloric acid) allowing it to remain about a half minute. Now, we pass it through 90° pure alcohol until even the faintest trace of the blue color has disappeared (1-2 minutes) and wash it off with distilled water.

8. Whereupon the coverglass is placed prepared side upwards and allowed to dry, which is hastened by blowing through glass tube. Finally by means of an eye-dropper 4-5 drops of a concentrated watery solution of vesuvian are dropped upon it (to prevent formation of mould in the vesuvian solution I usually add a small piece of camphor when it can be kept indefinitely). After two minutes it is again, thoroughly washed in distilled water, drying of the

specimen, removal of it upon an (from 1 2 m.m. thick) object glass, and examination is simplified if a drop or two of distilled water is added just previous to placing it under the microscope or if it is to be put up permanently as a specimen either Canada balsam or Damar varnish answers very well.

OTTO W. FENNEL, M.D.

ABSCESS OF THE ANTRUM OF HIGHMORE.

Editor of the Lancet and Clinic :

Mr. B., 64 years of age, was compelled to have a tooth, the upper last molar of the right side, extracted on account of a severe pain referred to that locality. This operation was performed by a dentist of this city on the 1st of May last. The tooth proved to be sound and showed no evidence of any diseased action having existed in it. But the pain had existed in the tooth, as the patient expressed, for eight or nine months, at intervals varying from a few days to several weeks, gradually increasing in its frequency and intensity until it seemed unendurable. The extraction of the tooth was followed by a small flow of pus, which kept up continuously, and prevented a closing of the opening from which the tooth had been withdrawn.

On August 16th, the patient presented himself at my office, and, upon examination, I found an opening sufficiently large to admit of the introduction of a probe on the site of the recently extracted tooth. I used a uterine flexible silver probe for the exploration of the diseased territory. On introducing the instrument I found a tortuous canal leading into the antrum of Highmore; not directly through the socket of the tooth, but up around the alveolar process, entering the antrum at its zygomatic surface. This opening was quite small and the canal leading to it filled with exuberant granulations, so as to impede a free discharge of the purulent formation. Introducing a grooved director, I laid open the soft tissues forming this canal with a blunt pointed bistoury, and enlarged the opening into the antrum by means of a stout scalpel. This was followed by a free discharge of pus. I next instituted the practice of washing out the antrum with warm water, repeated daily for ten days, at the end of which time the pus formation had about ceased.

On September 3d I again saw the case

and found that the antrum had again entirely assumed its natural condition and the opening into it almost entirely healed.

FRANK WARNER, M.D.

Columbus, O.

VINEGAR FOR DIARRHŒA.

Columbus, Ind.,

Editor Lancet and Clinic :

A current number of the LANCET AND CLINIC contains an extract on the use of vinegar in diarrhœa. I beg leave to say that vinegar when it could be obtained was used by the soldiers of the late war in varying quantity, generally diluted with water and a little salt and pepper added. Pieces of broken "Hard-tack" were soaked in the mixture and consumed with avidity. Large quantities were drank without dilution. The "craving for vinegar" is still remembered by nearly every soldier whether a scorbutic or not.

As to its being a remedy for diarrhœa such a thing was never dreamed of, on the contrary vinegar was accredited with producing diarrhœa especially among soldiers encamped upon Black River, Mississippi and around Vicksburg. The writer remembers seeing a number of soldiers who were emaciated with diarrhœa sitting upon the edge of their "bunks" with a tin cup in which was the usual vinegar water and hard-tack. Intelligent soldiers were aware that diarrhœa was often increased by the use of vinegar yet they were unable to resist the craving for it.

GEO. F. MCCOY, M.D.

"I TELL YOU SIR," said Dr. —, one morning to the village apothecary, "I tell you, sir, the *vox populi* should not—must not be regarded." "What, doctor!" exclaimed the apothecary, rubbing his hands, "You din't say that's broken out in town, too, has it? Lord help us! what unhealthy times these are!"

WHEN an infant does not thrive well, the cause is, in nearly every case, improper food. Hon. ERNST G. TIMME, Sec'y of State, Madison, Wis., says: "It gives me great pleasure to say that, having raised two children upon Horlick's Food for Infants, I am satisfied that it affords complete nourishment, promotes muscular strength, firmness of flesh, and that it is the very best preparation for the nutrition of young children."

Book on treatment of children sent free.

HORLICKS FOOD CO., Racine, Wis.,

Society Reports.

THE CHICAGO MEDICAL SOCIETY.

Stated Meeting, September, 1884.

The large attendance was noted. The first paper was by Dr. J. A. ROBINSON, entitled:

Remarks on Aneurisms,

In which the speaker cited a case of aneurism of the arch of the aorta, occurring in J. H. C., a blacksmith, wherein for 18 months his life was made comparatively comfortable by the administration of iodide of potassium, but he finally died recently of asthenia.

The large specimen of aneurismal sac was then exhibited by Dr. Robinson, who replied to the numerous informal queries that were propounded.

DR. JOHN BARTLETT cited briefly the history of a case of

General Chronic Bronchitis and Asthma

occurring in a man 70 years of age, who had been supposed to be suffering from consumption for 50 years. Eight years ago, when the patient came under his observation, he ordered him to take 8 grains of the iodide of potassium three times a day. He has not omitted a day to take the medicine, and he has steadily improved. His appetite has not been impaired, his kidneys have performed their normal functions and he has grown fatter and stronger. The case is an illustration of how long a patient may take iodide of potassium continuously without injury to the mucous membrane of the stomach or injury to the kidneys.

This report was followed by a paper on

The Treatment of Asiatic Cholera,

Read by Dr. H. M. Scudder, which we herewith present in full:

Mr. President and Members of the Society:

I have to thank you for the honor you have done me in asking me to open the discussion this evening. I would be loath to undertake the responsibility of addressing you in favor of a particular mode of treatment of this disease if it had not been my lot during my nine years' practice in India to pass through four epidemics of cholera.

As I was the only European physician in a town of nearly 50,000 inhabitants, and was at the head of a district hospital supported by the English Government, I was

called upon to treat a large number of cases.

One of the severest of these epidemics occurred during the famine of 1877-78. I was at the time in medical charge of a large enclosed famine relief camp, containing over 5,000 persons, and where we often had as many as 300 at a time in our hospital sheds, with a death roll during the height of the epidemic of over 50 per diem. In this camp I had an opportunity of trying on a large scale different remedies and the various modes of treatment, and of comparing the results. It is not my intention to take up the time by the enumeration of the long list of remedies that have been made use of in the treatment of cholera, or by the discussion of the value of the numerous and various forms of treatment that have been advocated, but shall confine myself to a description of the mode of treatment employed of late years by many of the surgeons in Southern India.

Before I proceed to the subject of treatment, however, I should like to say a word in reference to the contagiousness of the disease. I consider that cholera is an infectious disease and also somewhat contagious, though not highly contagious or readily communicable by personal association with the sick, as is the case with smallpox or measles. The noxious power of the cholera germ or virus (whether it is Dr. Koch's microbe or something else) seems to be more powerfully exerted sometime after it has escaped from the body of the patient than when it is freshly passed. Careful observation and experience the world over seems to establish this fact. Whether the disease is contagious or highly contagious, however, seems still to be a vexed question, and remains yet to be decided. My experience in four epidemics and the careful study of the history of Indian epidemics has led me to believe that the attendants and those who come into frequent and close contact with the cholera patients, are somewhat more apt to contract the disease than those who do not.

TREATMENT OF CHOLERA. — For purposes of treatment I would divide the course of the disease into the following stages:

A first stage or state of diarrhoea or cholerrine.

A second stage, or stage of invasion.

A third stage or stage of collapse (algid stage).

A fourth stage or stage of reaction.

This last stage may be succeeded by a typhoid condition, or cholera typhoid state, or else may pass directly into a state of convalescence.

In the prodromic stage, manifested by lassitude, mental depression, chilliness, nausea and abdominal discomfort, give 10 or 15 drops of spirits of camphor in dessert spoonfuls of hot brandy every hour or two. but be careful not to allow any considerable quantity of stimulants to be taken.

When epidemic cholera is prevalent, many are affected by the symptoms just described. If the remedies I have indicated are promptly taken, I feel confident many attacks of cholera would be warded off. It is true that fear often produces these very symptoms, but the spts. of camphor in spoonfulls of warm brandy tends to soothe these fears and dissipate the symptoms, and yet does not usually disorder the digestion.

As soon as diarrhoea begins, the administration of some preparation of opium, together with aromatics, camphor and a little chloroform, is urgently called for. Two parts of "chlorodyne" to one of spirits of camphor is a very good combination, 30 drops for a dose, to be repeated as required. Another very serviceable one consists of equal parts of spirits of chloroform, laudanum, aromatic tincture of rhubarb and tincture of ginger. Teaspoonful doses every hour or two, according to the urgency of the case, until 4 or 5 doses have been taken. In alternation with either of these combinations an aromatic sulphuric acid mixture may be given to advantage.

A popular formula is as follows:

R. Acid sulphuric aromat. $\mathfrak{z}\text{i}$
Tinct opii deodorat. $\mathfrak{z}\text{vi}$. vel $\mathfrak{z}\text{i}$.

M. Sig. 20 or 30 drops in water every hour or two.

I think it important to administer these remedies hot unless they create nausea. The hot water (two or three tablespoonfuls) in which you give each dose may be sweetened if desired. The patient should be made to lie down, keep perfectly quiet, covered with heated blankets, and dry heat applied to the surface of the body, by means of hot bottles, heated flat irons, etc.

In India the administration of calomel to any extent has lately been discouraged, one or two small doses may be given, if thought best, but not more. As soon as

frequent vomiting commences or the stage of invasion becomes established, the combinations containing opium, which have been mentioned, had better be discontinued and either of the following mixtures given instead, in teaspoonful doses, at intervals after a spell of vomiting, while at the same time morphine or morphine combined with chloral should be administered by hypodermic injection as the severity of the case may demand. Either of the following formulas may be chosen for exhibition every half hour or hour just after a spell of vomiting:

R. Chloroform,
Tinct. Capsici,
Tinct. Ganna. Ind., aa m. xxx.
Acid Hydrocyanic, dil., m. xx.
Ether, m. viii.
Spts. of Menthae pip., m. xv.
Syrup Sassafras comp., ad. $\mathfrak{z}\text{j}$.

M. Sig. A small teaspoonful every half-hour or hour. Or

R. Spts. Ammonia, aromatic,
Spts. Chloroform, aa $\mathfrak{z}\text{i}$.
Tinct. Capsicum,
Comp. Tinct. of Cardamon,
Tinct. Ginger, aa $\mathfrak{z}\text{ss}$.

M. Sig. Give in the same dose as the above.

A mixture of aromatic powder, gum arabic and acetate of lead may also be given alternately with either of these if desired. In any case mustard plasters should be applied over the stomach and abdomen, but not left on too long, and, if required, enemas of eight or ten grains of acetate of lead may be given after each evacuation. I think it is important to bear in mind that some preparation of opium or morphine, or morphine combined with chloral, is the chief remedy for cholera and the surest agent we can use to arrest the progress of the disease. When called therefore to a case already in the stage of invasion, I believe morphine or morphine and chloral should be administered hypodermatically without delay, in order to get these sovereign remedies into the system as soon as possible, for if we can arrest the disease before the patient becomes collapsed his chances of recovery will be very greatly increased. Caution must be exercised, however, when this form of treatment is pursued for narcotism is easily induced by repeated hypodermic injections, whereas very large doses of opiates can be given in this disease by mouth and rectum

with comparative impunity. The strength of the solution usually employed for injection is morphine, grs. iii ss; vel. gr., iv; with chloral hyd., ziii ss ; vel. ziii , to the ounce of water; inject 20 or 30 minims. The hypodermic use of morphine and chloral is of course contraindicated when the stage of collapse has become well developed. During this stage it is most essential that the patient should be kept perfectly quiet and in the horizontal position. No violent rubbings should be allowed, but I have found it beneficial to gently rub the limbs and extremities with hot oil. To allay the thirst let the patient suck ice frequently. Carbolic acid water or simple acidulated effervescing drinks may also be given by the tablespoonful. It is unsafe to allow the patient to drink any fluid whatever in large quantities. In this stage, especially when the acts of vomiting and purging have become less frequent and the algid state well developed, very small quantities of stimulants are useful, but they should be given with great caution lest vomiting should be provoked. Stimulant enemas may also be given, but where the stomach is intolerant it is often better to inject small quantities hypodermically. Experience teaches us, however, that anything like the free use of stimulants in cholera is uncalled for and exceedingly harmful. I have sometimes found small doses of both atropine and strychnine, administered by hypodermic injection, apparently effectual in bringing about reaction. Amyl nitrite by inhalation may be given a trial, but it seems to exercise very little permanently beneficial effect. Intravenous administration of milk and salines may be resorted to, but the reaction they induce is not generally of a permanent character, so that many of those who have given this method a fair trial have abandoned it. Of late years in Southern India careful experiments have been carried out in reference to the value of impregnating the atmosphere of the sick-room with sulphurous acid by the burning of sulphur. The result has been that this procedure has been introduced as part of the treatment of cholera. I have on several occasions carefully tried this plan myself, by subjecting the inmates of two different cholera sheds to exactly the same conditions and treatment in every respect, with the exception that in one the atmosphere of the shed was kept impregnated with sulphurous acid

and that in the other not. I have always found that the proportion of recoveries was considerably greater in the shed where sulphur was burnt. I therefore now always proceed to burn sulphur in the patient's room as part of the treatment of cholera and consider it an important adjuvant. The atmosphere should not be so highly impregnated as to cause the patient or attendants to cough violently. Sulphurous acid thus applied is not only a useful remedy, but it is also believed to decrease the liability of the disease being propagated or contracted by the attendants. During the stage of reaction great care should be exercised. Vomiting often continues and the normal absorbing power of the stomach and intestines is but slowly restored. Liquid nourishment by the spoonful should be most cautiously given, well salted broth and milk given as hot as possible, and not too frequently, are the only forms of food admissible until the enfeebled stomach shows signs of recovering its tone. Peptonized beef tea and milk are frequently well borne, if carefully prepared so as not to nauseate the patient. If vomiting persists the following emulsion may be given if deemed best: *R.* Acid carbolic, gr. vii; bismuth subnit., z ii ; mucil. acaciæ, aquæ menth. virid., aa 3i . *M. S.* A teaspoonful every hour or two. But in this stage it is good treatment to let nature do the work of restoration and give as little medicine as possible. We must bear in mind, however, that the kidneys must be assisted to resume their functions, and, for this purpose, mild diuretics, such as potass. nit., should be carefully administered. If fever supervenes it is apt to be of a typhoid character. A combination of iodine and carbolic acid then exerts a beneficial effect. A popular formula is as follows: *R.* Acid carbolic, gr. ii ss; tinct. iodine, gtt. xv; aquæ menth. pip., ad 3 iv . A tablespoonful every two or three hours. To relieve restlessness and insomnia potass. brom. is often useful.

The paper was well received and generally discussed, but, for want of space, we are obliged to omit publishing.

L. H. MONTGOMERY, M.D., Sec'y.

PROF. NUSSBAUM, of Munich, places a few drops of oil of cloves on the towel before giving chloroform when the patient has a repugnance to the odor of that anæsthetic.

THE CINCINNATI LANCET AND CLINIC

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Cincinnati, September 13, 1884.

The Week.

THE CINCINNATI MEDICAL SOCIETY will meet at "Lancet Hall," next Thursday evening, September 16, 1884.

FOR SALE.—An established Physician's Home. A desirable field.

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THE CHOLERA has steadily spread over Southern Europe until now almost the entire Mediterranean coast is affected. Naples is visited with special severity by the plague. The death rate has gradually increased, until at this writing it is nearly 400 per day. The ignorant populace in many cases refuse the assistance of the doctors and their untiring assistants, the priests, believing that poisons are being administered, and that people are dying from the effects of these instead of from cholera.

In a few instances the doctors have taken fright, either at the demonstrations of the people or from fear of cholera, and have refused their services, but this has only been noticed in a few instances. King Humbert has gone to Naples in person, and by his

visits to the poor quarters and to the hospitals has endeavored to infuse some of his own courage into his frightened subjects.

The condition in Spain is growing worse daily. While there are no large cities yet attacked, still the disease is spreading throughout the country.

SOME OF THE WORK WHICH CHOLERA HAS DONE. — In 1871 there were 300,000 deaths from cholera in Russia; in 1873 there were 16,000 deaths in Poland; in 1872-3 there were 140,000 deaths in Hungary; in 1872-3 there were nearly 27,000 deaths in Prussia; in 1865-67 there were 143,000 deaths in Italy. In Paris the mortality from cholera has been as follows: In 1832, 18,654 deaths; in 1849, 19,184; in 1853-4, 8,096; in 1865-6, 12,082. In England, in 1849, the deaths from cholera were 70,000. In 1817 the army of the Marquis of Hastings in India lost 9,000 men in twelve days from Asiatic cholera. — *Phila. Med. Bulletin.*

SENSATIONAL JOURNALISM.—A special to the *Commercial Gazette* under the date of September, 8th, under the displayed head lines of "Brutal Work of Doctor's in a Philadelphia Medical College" is a good example of "Much Ado About Nothing." It appears that five years ago a seven year old epileptic on account of the violence of the case was placed in the Insane Department of Blockley Hospital. After five years he died and because the physician in charge desired to view his brain—which proved to be an interesting pathological specimen—the father became very indignant. Still further incited by an ignorant but meddlesome attendant the father proposes to bring a criminal action against the Superintendent and a suit to recover the child's brains from the physicians.

Here was a child rendered by disease violent and troublesomé. The parents then send it to a charitable institution so that the care is then shifted to the Superintendent. During the remaining, four years of life the Superintendent and Physicians in charge do everything known to humanity and science to alleviate the child's sufferings and this too, on the physicians part, without pecuniary compensation.

At the child's death the physicians think that a post-mortem will advance their knowledge of this disease and make it, and discover noticable brain lesions, so that they keep the brain as a pathological specimen. Now come the parents, who have been willing enough to resign to the hospital the care of the child while it was living, and raise a terrible cry of brutality because, forsooth, the physicians, having tenderly cared for the child while alive, have now utilized its body for the advancement of science. The child was of course, not harmed. The "brutality" consists in shocking the tender feelings of the parents who would have nothing to do with the live child. Perhaps, however, the loving (?) parents think that the courts may award them a substantial balm for their lacerated feelings, and not satisfied with the hospital caring for the child for five years compel the superintendent to care for the parents the remainder of their lives.

Abstracts.

OPHTHALMOLOGY, ETC.

[PREPARED BY DR. DAVID DEBECK.]

PROGRESSIVE, PERNICIOUS ANÆMIA, OPHTHALMOSCOPIC APPEARANCES. — Bierwirth, St. Louis, reports (*Amer. Journal of Ophthalmology*, August, 1884) a case. The patient, a married woman, began four years ago to suffer with ulcerative stomatitis; this became so annoying that sufficient nourishment was not taken; but finally yielded under large doses of iodide of potassium.

Patient now presents a picture of the utmost prostration. Skin waxy, lips almost white, profound emaciation. Respiration normal, slight dulness at left apex. Pulse 120, anæmic noises over entire cardiac region, pulsation in the jugular veins. Occasional fever, and slight cough. Appetite poor, bowels irregular, occasional vomiting.

Blood examined showed no apparent increase of white corpuscles. The red corpuscles were large and pale; they were somewhat swollen, and more globular in shape, lacking the central depression; and on edge presented more of a shell, instead of the normal biscuit shape, nor would they arrange themselves in *rouleaux*. They were in many cases granular, and the

blood contained some debris, remnants of destroyed red corpuscles.

The ophthalmoscopic examination (made by Alt) shows optic discs very pale, arteries scarcely visible, veins broad and somewhat tortuous, the retina near the disc slightly infiltrated, and containing numerous striated hemorrhages. In one eye some white (fatty) patches, evidently the remains of previous hemorrhages.

Under tonic treatment, improvement.*

REMOVAL, BY THE MAGNET, OF FOREIGN BODY IN THE VITREOUS. — Holmes, Chicago, reports (*Archives of Ophthalmology*, June, 1884) a case. Patient, while holding a steel drill, upon which a fellow-workman was striking with a heavy hammer, received a wound in the left eye, from a flying splinter. Two days later he came under observation: corneal wound in the lower quadrant; lens becoming opaque; by oblique illumination or with the ophthalmoscope a body with grey metallic lustre, in the nasal portion of vitreous, close behind the lens.

An incision, an eighth of an inch in length, was made through the sclerotic, parallel to the lower border of the external rectus, and just behind the ciliary region. The probe of a Gruening magnet was introduced in the direction of the body. At the third trial the body was withdrawn adhering to the magnet. A small button of prolapsed vitreous was excised, a couple of stitches were inserted in the conjunctival wound, and atropine and boracic acid were applied. Prompt healing.

The fragment was a piece of steel two mm. long, one mm. wide and half a mm. thick.

OUR CHILDREN'S EYES AND BOOKS. — One of the penalties of the mental advancement which characterizes civilization, is the deterioration of the physical man. The one who will but look about him will scarcely need his attention to be especially called to the abundant illustrations of this fact. The particular defect which we would at present refer to, is that which is noticeable in the defective eyesight, particularly of the children and younger people of the present age. This subject is made the basis of a paper by Dr. F. C. Hotz, published in the July number of the *Chicago Medical Journal and Examiner*. Dr. Hotz starts out with the proposition

that a child is seldom born near-sighted, and that near-sighted eyes are not found among the uncivilized races. While observations conducted on the eyes of school children in the various countries of the civilized world show an alarming prevalence of myopia, the percentage increases from the lower to the higher grades in each school, and from the common schools to the schools and colleges. This increasing percentage, with the length of time which a child has been at school, points very clearly to some intimate causal relation between school life and near-sightedness. The cause is clearly in the adjustment of the focus and the visual axis of the eye, to the distance at which the book or slate is placed. The sclerotic of the child's eye is then extensible, and its form is influenced by the tension and pressure caused by the adjustment referred to. The distance at which the book from which the child reads, or the slate on which it writes, should be held, in order that the least possible strain may be put upon the eyes during the act, is eighteen to twenty inches. For this distance the convergence of the visual axis is so slight, and the amount of tension so small, that the muscles of the eye are not taxed severely, but with every inch by which this distance is shortened the work imposed upon the ocular muscles rapidly increases, and soon causes a degree of tension and pressure dangerous to the soft tunics of the child's eye. But in order to permit of the child's seeing at the proper distance the book print must be of the proper size.

Authors upon this question hold that the type should not be smaller than one and one half millimeters, while some experts put the limitation at one and three-fourths millimetres for children's books. This latter would be about 75 per cent larger than the type in which the LANCET AND CLINIC is printed. The distance between the lines should not be less than two and one half to three millimeters. An examination of the school books in use in the grammar and high schools of the city of Chicago showed that the majority conformed, as regards the size of the type employed, to the above requirements. The words of a school dictionary in very general use, however, are printed in agate, which measures one millimeter, while the definitions are printed in pearl, the size of which is three-fourths of a millimeter, and the distance between the

lines is one millimeter. The stain on the child's eye after reading the larger type in the school book, on consulting this dictionary must necessarily be very great.

But probably the greatest mischief is caused by the reading of magazines, story papers and newspapers, which intelligent and precocious children are allowed to read in connection with their school studies. An examination of the books found in a public library will reveal the fact that the very great majority of them are printed in type very much smaller than that which should be the standard for children's reading. The ordinary newspaper type measures about one millimetre.

But in addition to the type there are other causes of myopia, and among them are poorly lighted rooms in the homes of children who read the newspapers, story papers and magazines referred to. The rooms of the rich are dimmed by curtains and shades, and the rooms of the poor are darkened for want of large windows, or because they are situated in basements or narrow alleys. Seldom, also, is there any attention paid to the hygiene of reading, and children are allowed to read without reference to the manner in which the light falls upon the page. Parents should be taught the hygienic principles underlying this matter. With this properly understood there would be no place in the home of the parent who has any regard for the eyesight of his child for the penny papers, dime libraries, and other so-called cheap literature. Outside of the poisonous nature of mental pabulum which such literature affords, it is, as a rule, printed in such a manner as to defy all the rules which should govern the letterpress of books intended for the eyes of the growing child.

Another fruitful cause of myopia is found in the ill-health of the child, the sclerotic sympathizing with the general condition of the system. When the latter lacks physiological tone the former also lacks it, and is thus doubly susceptible to those causes, the operation of which directly results in its malformation.—*Medical Age.*

SHORTSIGHTEDNESS IN SCHOOLS. — The Minister of Instruction in Berlin has taken measures for investigating the causes of shortsightedness in the higher grade schools. Some schools are to be selected for this purpose in every province, and the

investigations are to be carried out by oculists, if possible, by assistant oculists attached to university eye hospitals. Previous to this special investigation, the masters of schools are to make an experiment by means of tests in reading and writing. The scientific deputation of the Ministerial Medical Board has drawn up the forms according to which these experiments are to be made, and they are to be carried out in connection with the point of view proposed by Dr. Herman Cohn, of Breslau, and Dr. Adolf Weber, of Darmstadt, and are to be continued for several years. Lists and cards are to be kept for registering the experiments, to be made at the end of the school term and other prescribed intervals, these lists will also register the age, school year, reading test, spectacle number, and state of the dilator muscles of the eyes of each individual pupil. A list will be made from these materials and laid before the chief authorities half yearly, and the necessary observations on any defect of light owing to the position of the school benches, or defects in the books, etc., used for instruction, or on hereditary short sightedness, etc., will be attached to the list. — *British Med. Jour.*

Selections.

MEDICINE.

INFLUENCE OF DIET ON HEADACHE.—

It is no new observation that a diet largely vegetarian will cure, or at least greatly relieve the pain, and render less frequent the attacks of megrim. The following case tends to show that the headache and other phenomena are the result of a poison circulating in the blood, that that poison is a product of the digestion of certain foods, especially butcher meat, and that a cure is best effected by cutting off entirely the noxious food, and aiding the elimination of the poison by the kidneys.

A young professional man, somewhat over thirty, residing in London, the child of healthy parents, but with a distinct history of phthisis in certain aunts on his father's side, has suffered from headache as long as he can remember, and has distinct remembrance of rolling on the floor in the greatest agony with one when about eight years old. At college they were troublesome, and have been so since in professional life.

He is active and muscularly strong, but light in build and weight; generally pretty cheerful, but subject to despondency at times when attacks of megrim are impending. He is hypermetropic, and the right eye is astigmatic, but he has had glasses for these defects for years, as his eyes first troubled him when he began to read, and he had to get glasses then. The history of an attack as experienced in recent years is somewhat as follows: he perhaps wakes in the morning feeling less fresh than usual, and even his cold bath does not bring him up to the mark; he feels very empty just before and after eating—and especially in winter, but sometimes even in the heat of summer, he suffers from cold hands and feet. He is much more easily tired than usual, and toward the afternoon there comes a throbbing headache, which at its worst is commonly occipital, but when less severe it may be frontal, or over the entire head. At its worst it is right in the center of the occiput, is throbbing, and is increased by exertion or stooping down. If it comes on in the afternoon it gets worse in the evening and towards night, and is at its worst when first lying down in bed, when the pain may be almost unbearable. If he can sleep, he may wake free from pain in the morning, or there may be slight pain which increases during the day.

Pain is never confined to one side of the head, nor is it, except when very severe, attended by sickness—that is about once in a dozen attacks; but often when pretty bad there is intense coldness of the extremities and some nausea.

In addition to the cold extremities, uncertain appetite and easy fatigue already mentioned, there are often for a few days before the attack some irregularity of the bowels, with flatulency, and pain and heat in the right hypochondriac region, and dreams at night, which at other times are very rare. Tongue is clean, or slightly furred and red; pulse is slow, and temperature normal or under it. Urine is scanty, and high in color and specific gravity.

As to treatment, apart from diet, the remedies found useful were *nux vomica*, which improved the circulation in the extremities, *sal volatile* with quiet and external warmth, and purges; but when, as at one time, it became necessary to resort to purges every week, they were found too depressing.

The attacks were most frequent during the winter months, and during much seden-

tary confinement, and at times these ranged from one in a week to one in ten to fourteen days.

It was in the cold season, in the midst of much sedentary work, and having had two or three successive attacks, that a strict vegetarian diet was first tried, with the immediate result that a month passed without an attack, there being no change of occupation or residence during that time. The diet was then continued more or less strictly for six months, during the cold part of the year, with the result that there were one or two slight attacks in that period. Since then it has been found that a less strict diet gives immunity, and at present fish is taken once or twice a day, and an egg or bit of fowl or game may be substituted for it. The only thing to be avoided is butcher meat, one meal of it at a friend's house being sometimes sufficient to bring on an attack. Beer, wine and spirits, except in moderation, are bad.

It was found that two or three tumblers of hot water taken every night at bed-time gave increased immunity without fear of an attack. The hot water was, I think, indicated by the scanty urine and disinclination to fluids which were marked symptoms.

He found some discomfort in the hot water at first, but he now takes it with pleasure.

Such is the case and its history up to the present time. We now attempt an explanation.

Look at the symptoms in groups and try to give them their true value. The uncertain appetite, moderately furred tongue, pain, heat or weight in the right hypochondrium, with the excess of flatus, may be taken as indicating gastro-duodenal catarrh, with some congestion of the liver. The depression of pulse and temperature seem to point to impurity of blood, which causes the contracted vessels and cold surface and extremities. The headache seems to be due to congestion, the mass of blood being driven inward from the surface, first, because it is worse when in bed, and better when sitting upright, and second, because getting the surface and extremities warm soon relieves it. But it may be explained by the condition of the arteries observed by Dr. Brunton in these cases, which consists in their being contracted towards the periphery, but dilated towards the heart, so that a jet of blood strikes against the contracted part and gives rise to pain. This

harmonizes with the above-mentioned effects of posture, and accounts for the throbbing which is so marked when the headache is severe.

We have then as our main factor the impure blood, which on the one hand causes the headache, and on the other hand is itself due to imperfection of the digestive processes.

If further evidence of the impurity of the blood were wanted, it might be found in the marked relief obtained from the eliminant action of diuretics and purgatives, and the washing out the tissues and blood by the hot water process; and on one occasion it was noticed that a single one of Martindale's nitro-glycerine tablets sufficed to at once bring on an impending headache, perhaps by preventing oxidation, which nitrites in the blood have been shown by Gamgee to do.

As to the nature of the impurity in the blood, and its connection with the indigestion of meat, there is no doubt that more than one explanation is possible; but some hint as to the direction in which it is to be looked for may be found in the following passage in the fourth edition of Dr. M. Foster's Physiology, p. 298:

"Perhaps in the intestines, as in the laboratory, this pancreatic digestion of proteids in excess is accompanied by a considerable development of bacteria and other organized bodies, which create disturbance by inducing fermentative changes in the accompanying saccharine constituents of the chyme."

Perhaps the poison may be the result of some such fermentation, which may be induced in some persons more readily than in others; for it is a matter of common experience that different patients react in a different manner to the same drug; and among foods, such as oatmeal, of which I consume a large quantity every day, there are persons in whom the smallest quantity in their food is sufficient to cause an attack of urticaria.

Or if a more potent poison is required, it is asserted that alkaloids are formed in the intestines during digestion similar to those that have been found in the cadaver, that these are excreted in the feces and urine, and if from any cause they are absorbed in excess, or insufficiently excreted by the kidneys, they give rise to toxæmia, and are the cause of the group of symptoms known as uræmia, and of the toxæmia of constipa-

tion and of certain infectious diseases, particularly typhoid fever.

I think the history of this case points to some such poison as the cause of the headache, and that the gastro-duodenal and hepatic symptoms, slight though they be, are the indices of what is going wrong in the process of digestion, and of its primary seat. Butcher meat is sufficient in this case to induce these changes—an exemplification of the saying that "one man's meat is another man's poison."

I am quite aware that there exist in the case as above related some of the common causes of megrim, as hypermetropia and astigmatism, but the attacks never seemed to have any connection with the use of the eyes, and for many years these defects have been counteracted by the use of proper glasses. The headaches were very frequent and severe at the university, but at that time the patient was doing more rowing than reading; but being in training for this exercise he was eating butcher meat three times a day. His teeth are by no means above the average: but the headaches have extended over many years with varying conditions of teeth, and quite irrespective of neuralgia of the face and toothache; and against both of these as causes, stands the fact that teeth and eyes remain unchanged, at the same time that a variation in the diet has effected a cure.

That the attacks were more frequent in winter than in summer, I attribute to the increased proportion of fruit to the rest of the food, and the increased opportunities for oxidation during the outdoor exercise of the summer.

Whether this is the correct theory or not, the fact remains that this young man was for many years a martyr to headaches, and at times business and reading was such a burden that he thought of giving them up; and this in spite of advice and drugs, which at one time he had an abundance of. Now he has been on this diet, from which meat is absent, for about eighteen months, and he has been free from his tormentor in spite of much sedentary work. He was not weighed at the time the changed diet was commenced, but he has not diminished in weight compared with the average for two or three years back, and he is more active and strong than ever before.

It may be objected that megrim is known to get better in those who suffer from it after they reach the age of thirty, and the

change of diet was a mere coincidence; but that this has nothing to do with the effect is, I think, shown by the way in which improvement succeeded the change in diet, and by the fact that an attack is again induced by a return to butcher meat. — *Practitioner*.

A SIGN OF SCIATICA which is little known is noted by M. de Beurmann. The manner of finding it is by causing the patient to lie on his back in a passive condition, then the leg is slowly elevated, and flexed upon the pelvis. Immediately the patient complains of an intense pain along the track of the nerve and particularly at the nates, corresponding to the sciatic notch. The cause is the varied degree of tension exercised upon the nerve in these different positions. This symptom is a constant one and also pathognomonic. From the mechanism of this sign the author deduces the manner of treating it. That condition which permits the nerve to remain in the most relaxed position is the most favorable, and to do this it is only necessary to place the leg so that it will be flexed upon the thigh and immobilize it in that position. — *Weekly Med. Review*.

BILIOUSNESS IN BLOOD POISONING. — By C. R. Francis, M.B., Surgeon General, H. M. Indian Army, in *The Practitioner*.

A case of fatal diphtheria has recently occurred within my own knowledge, tho' not under my care. A young unmarried lady, of considerable mental culture and active habits, but of strumous constitution, complained one day of so-called biliousness, and was treated accordingly. On the day following her throat felt uncomfortable, the discomfort being accompanied by dysphagia. On examination the tonsils were found to be considerably enlarged, and simple cynanche tonsillaris was diagnosed. Twenty-four hours subsequently diphtheria was developed, and in forty-eight more, or in ninety-six hours from the commencement of the attack, the patient was dead.

The case presents, I think, the following noteworthy points:

1. The feeble resistance offered by an apparently healthy, but really delicate frame to the invasion of a virulent and quickly acting blood poison.

2. The rapid development of what seemed to be a simple disease into a really dangerous one.

3. The effort of Nature to eliminate the poison by the liver.

Some years ago Dr. Peter Hood published a book on the treatment of scarlatina, in which he quotes the early use, in all cases of the disorder, of quinine, together with other suitable remedies; a treatment under which, he adds, his cases have all terminated favorably. His theory is that the concomittant sore throat, which promises to be mild, *may* develop into a severe type of the same disease, and even into diphtheria itself.

A case confirmatory of Dr. Hood's view occurred in my own practice at one of the Himalayan Sanatoria, in 1856. A child twelve years of age and markedly strumous was attacked with what was diagnosed as simple cyanche tonsillaris, and for two or three days (as I was informed, for circumstances had caused me to leave the station for a time), there was nothing remarkable about the case, which promised to terminate favorably. One morning, however, on paying the usual visit, the medical officer noticed a change for the worse. A bad form of sore throat—diphtheritic pathology was not so well understood thirty years ago as it is now—had succeeded to the simple cyanche, and in forty-eight hours more the little patient was dead.

On resuming charge of the station a day or two afterward, I received, late on the evening of my return, a note from the mother—the wife of an Indian officer—in which she said that Lucy, a younger sister, about three years of age, seemed to be bilious, and asked me to see her in the morning. I ordered my pony and went over at once. Calling for a light and spoon, I looked into the child's throat, and, as I expected, found it affected. The tonsils were not enlarged, but were covered with a gray, ash-colored deposit. Within a week this little one also died. She had been allowed to kiss her sister within a few minutes of the latter's death. The family were all more or less strumous, but these children were especially so. The mother and an European servant were also attacked with diphtheria, but recovered. More cases occurred in another part of the station, but there were no more deaths.

I now—and I have followed the practice ever since I have been acquainted with Dr. Hood's views—when summoned to a case of sore throat, however simple it may appear (unless, indeed, it be a case of

specific origin), invariably give full doses of quinine or other nervine tonic, with as much nourishment as the stomach will bear, and whatever might have been the result under other treatment, with this it has been eminently satisfactory.

With regard to the so-called biliousness in cases of blood poisoning, it is, I venture to think, a symptom of the greatest value, being evidently a conservative effort of the system to eliminate the poison through nature's chief emunctory—the liver.

Gaspard and Fontana proved by their experiments that all poisons find their way to this organ and there create an increased secretion of bile,⁽¹⁾ with which they become intermingled. It is a familiar symptom early in erysipelas and some other forms of blood poisoning, and the worst cases of cholera are occasionally ushered in this way.

A bilious attack is not an unusual form of attack in the hot weather in all countries, and under ordinary circumstances would excite no special attention. A mild aperient, with attention to diet and hygiene, would probably soon rectify the derangement. But if there be cases of blood poisoning in the neighborhood or locality, the question would at once arise: "Is this one?"

But supposing it to be one, what do we gain? To begin with, we gain time. This in itself is an immense advantage, as we at once begin to use the remedial measures adapted to such cases, and fortify the system in the event of the attack assuming an unfavorable character.

But may we not utilize the hint given us by this action of poison on the liver, and endeavor to eliminate the former as completely and as rapidly as we possibly can through that channel? Are we to wait until the poison has stamped its characteristic features on the system—be it diphtheria or scarlatina, small pox or puerperal fever, etc.—and do no more than enable it to sustain as best it can, the workings of the poison until the latter has passed away, supplementing this by antiseptics to modify

1. All poisons are not eliminated by the same channel, thus that of small pox finds its way to the skin and lungs, that of scarlet fever to the throat, kidneys and skin; that of diphtheria to the throat, lungs and kidneys, leaving the skin. But if the liver can be used to eliminate some, at any rate, of the poison in each case do we not steal a march, as it were upon the enemy?

its virulence en route? I once in India had under my care a severe case of smallpox in a young officer, in whom the first symptoms were distinctly hepatic; indeed, I imagined he was about to have a sharp attack of hepatitis. Calomel was the fashion in those days and I gave him a scruple. I remember being much struck at the time with the great relief that followed the action of the mercurial, succeeded by an aperient, so much so that I regretted afterward not having continued the treatment upon these lines.

Mercury is undoubtedly a ticklish drug to give in blood poisoning, but possibly the poison itself is in some cases cholagogue (?) sufficient, and the end might then be answered by a judicious but free use of quickly acting aperients. (?) Otherwise the poison brought with the bile into the intestinal canal might be, and no doubt is — some of it, at any rate — reabsorbed into the circulation.

One word more with reference to the value of oxygen gas in blood poisoning. When I was Staff Assistant Surgeon at the E. I. Company's depot of all arms at Warley, in 1858, a young recruit was dying in hospital from a severe attack of malignant scarlatina. The occasional inhalation of oxygen gas, however revived him, so that remedies and food were enabled to do their office, and he eventually recovered. The case was published in the *Lancet*, March 12, 1858. One great objection to the use of oxygen is its expense, but this has to a great extent been obviated, especially for practitioners in and near London, by Messrs Armbricht, Nelson & Co., 23 Duke street, Grosvenor Square, who supply the apparatus for hire for 15s. a month, exclusive of the oxygen itself, which is charged for at the rate of 5s. for 120 pints. Instruc-

tions for use are furnished at the same time. The cost of an apparatus complete is £6 6s.

To insure the arrival of the oxygen in the lungs, a little careful manipulation is necessary, or it may not get beyond the back of the mouth. The lungs should first be emptied by a long expiration, the nasal orifices closed by the thumb and forefinger; let the patient, after placing the glass piece in his (or her) mouth, and fixing the lips firmly around it, the tap in the inhaling tube now being turned, draw a long breath.

From my own experience of this remedy I can not but think that if it were more extensively tried in cases of blood poisoning, the results would *ceteris paribus*, add greatly to its reputation. But its use must not be postponed, it ought to be employed early.

INFLUENZA DURING CHILDHOOD. — (*Jahrb. f. Kinderh.* [Filataff, St. Petersburg, in *Medic. Oborsen.*])

This disease (Grippe) has received scant attention from the text books of pathology and treatment of the diseases of children. No difference between it and simple bronchitis is remarked in the books, except that it (influenza) is an epidemic disease. The author has described the disease with considerable minuteness. His definition is that influenza is a febrile epidemic catarrh, which attacks simultaneously or in succession the mucous membranes of several organs.

Hirsch thinks that it occurs independently of temperature and climate, differing in this respect from coryza or bronchitis, and yet that it prevails most frequently in winter. Aside from the element of miasm, which may or may not be a factor in its causation, it is likely that it is propagated by a contagium of some sort. Its marked epidemic character supports this opinion. The younger the child the more severe the disease is apt to be, prevailing most frequently among children between the ages of six months and five years. Taking cold has more or less influence in developing the disease, thus the first subject of it in a family may be attacked soon after he has contracted a cold, but it may spread to the remaining children of the family without such a preliminary incident. The period of incubation is from one to three days. As to the symptoms and course in the most

2. Although we could not hope to get rid of all the poison this way, we might remove a portion — perhaps a large portion — of it. I should not hesitate to give unless it were specially contra-indicated, a full dose of calomel early in the attack, followed, perhaps, by a smaller one. Salivation must, or course, be avoided.

3. This practice, though in keeping with that advocated by Dr. Johnson in cholera, is diametrically opposed to the treatment which is acknowledged by all practical physicians to be the most efficacious in that disorder. It seems inconsistent to eliminate a poison in one disease and retain it in another. But — the comma bacillus notwithstanding, we do not yet know the exact pathology of cholera.

typical cases, the author has noticed an afebrile prodromatic stage, with coughing and cold in the head. This stage lasts from a few hours to a day and a half, after which there is a sudden rise of the temperature of the body. There is next, in some cases, a continuous remittent fever, with mild morning remissions and evening exacerbations, the curve varying between 39° and 40.5° C. The catarrhal symptoms extend rapidly from the nose and pharynx to the bronchi, and may develop into pneumonia. The fever usually lasts in such cases from one to two weeks, and terminates in a crisis which lasts from one to three days. In other cases the disease progresses more slowly, the catarrh extends gradually downward from the nose, the temperature curve is irregular and varying, high temperature alternating with normal. This form of the disease may last for several weeks.

The disease is distinct from bronchitis in the frequency and violence of the cough, and its longer duration before expectoration occurs. Pains in the ears are often observed in the early stages of the disease, but they disappear, as a rule, in a short time. Sleeplessness and irritability are marked nervous symptoms. Delirium is frequent, especially during the first night. These facts may be useful in differentiating from typhoid fever.

If the type of the disease is the one with continued fever, and pneumonia occurs as a complication, the latter will take the form of a croupous pneumonia, and follow a somewhat more protracted course than is common with that disease. Should pneumonia complicate the other form of influenza, namely, the one of slower development and a typical fever, the course of the pneumonia will also be very slow, one focus of inflammation following another, constituting the so-called pneumonia migrans. This variety occurs most frequently in nursing children, and those from two to three years of age. The emaciation and hectic which accompany this form of the disease often suggest tuberculosis, and, in fact, in some cases it exists.

As to differential diagnosis, acute simple bronchial catarrh is chiefly to be considered, and influenza is to be distinguished (1) by its propagation as an epidemic, (2) by the simultaneous affection of the mucous membranes of other organs, (3) by the intensity of the fever and cough, which are

not like those of ordinary catarrh, (4) by the long duration of the catarrh, (5) by the participation of the nervous system in the disease. The moderate reddening of the pharynx, without the presence of points or patches, will distinguish it from measles. In addition, the frequent sneezing of measles is absent.

Should the influenza co-exist with continuous fever and diarrhoea, typhoid fever is to be suspected. But in the former the cold in the head will persist from the beginning, while the coughing will precede the diarrhoea, and the extraordinary irritability of the patient will be a pronounced feature.

As prophylactic treatment protection from colds is recommended, and also cold baths. With delicate children a prolonged sojourn in the country will have a prophylactic effect. Large doses of quinine at the beginning of the disease sometimes have a curative effect. Apomorphia is recommended for the dry cough. When pneumonia of long duration has complicated the disease, a change of climate is urgently demanded.—*Archives of Pediatrics*.

ALBUMINOUS DIET.—Dr. Angelo Celli, in a paper read to the Società Lancisiana, degli Ospitali of Rome (*Gazz. Med. Ital. Prov. Venet.*, June 28, 1884), draws attention to the great advantages to be obtained in some obstinate cases of diarrhoea from egg-albumen. He instances two cases. The first, a man aged 43, suffered from chronic enteritis and diarrhoea. He had never had syphilis nor tuberculosis, nor was there any other cause to which the intractable intestinal catarrh could be attributed. In spite of all treatment and the most careful dieting, the symptoms continued, and the patient's state was most alarming. All drugs being abandoned, under a diet of white of eggs the diarrhoea rapidly ceased, and in fifteen days had completely disappeared, and the patient quickly regained health and strength. The second case was that of a midwife suffering from uncontrollable diarrhoea. Medicines and milk-diet had no beneficial effect. The day after commencing the albuminous diet, the stools were reduced from thirty and forty to three in the twenty-four hours, and after eight days the diarrhoea completely ceased. In fifteen other cases of chronic catarrhal enteritis, in which other treatment was useless, the diet of albumen was completely successful. In the diarrhoea

accompanying the palustral cachexia it is also often advantageous, and in the diarrhoea of the tuberculous. In two cases accompanying tertiary syphilis it was of no avail, diffused amyloid degeneration of the arterioles of the villi being found after death. The albumen is given in the following manner: the whites of eight or nine eggs are beaten up and emulsified in a half-litre of water, which is to be taken by sips during the day. The quantity may be increased if necessary, and eighteen eggs have been given in the day in a litre and a half of water. This makes an insipid but not disagreeable drink. It may be made more palatable by the addition of a few drops of some essence, lemon, aniseed, and sugar. If the complaint be accompanied by much pain, laudanum may be added in suitable doses.—*London Medical Record.*

HEREDITARY (FAMILY) PROGRESSIVE MUSCULAR ATROPHY.—Dr. Franz Zimmerlin in *Zeitschrift für Klin. Med.*, Band 7, Heft 1.—The clinical picture of hereditary ataxy has been classically worked out by Friedreich; the hereditary form of progressive muscular atrophy by Leyden. The hereditary form of progressive muscular atrophy, in opposition to the not hereditary, is classified as a clinical secondary form by Leyden, as follows:

Beginning of illness nearly always in advanced childhood, seldom later, attacks several members of the same family, particularly males. Begins with weakness and atrophy in loins and lower extremities, first in lower part of leg or muscles of back; it is not always recognizable, owing to development of fat in the interstitial tissue. After some years, shoulders and arms are attacked; the change is one of pure atrophy, i.e., not complicated with fatty changes.

The following cases show that not only one, but at least two types of this etiological secondary form exist.

Zimmerlin gives seven cases, belonging to two families; four in one family (Loosli, Bern), and three brothers (Schubmacher, Frickthal).

In the Loosli family ten children are living out of eleven. Two eldest, 28 and 30, are strong and healthy, also three youngest, 14–10. Of five between 20 and 26, one brother, 24, quite healthy. The other four, two brothers, 26 and 22, and

two sisters, 25 and 20, are affected, and show severe disturbance of nutrition and function of voluntary muscles.

The father has pulmonary phthisis, mother quite healthy. No neurotic heredity. Family intelligent and well built.

As an example, Verena Loosli, is 20 years old. Childhood weakly, with croupous pneumonia; at puberty she had erythema nodosum. Probable commencement of illness in summer of 1881, with weakness in the back, fatigue in standing or sitting upright. In autumn, pain in region of right shoulder-blade, fatigue in both legs, with slight formication.

Since January, 1882, patient remarked that her shoulder-blades gradually began to come forwards, and the posterior borders projected from the chest-wall, chest flattened, clavicles more prominent, at the same time she had some weakness in the upper extremities; could not lift up her arm to her head, but could raise arms to the horizontal position by means of the deltoids. The spine, at the sixth dorsal vertebra, was slightly painful on pressure. Atrophy and paralysis in a high degree of both serrat. antic. magn., with complete loss of excitability of muscles and their nerves for galvanic and faradic currents. Decided weakness and degeneration-reaction of both pectoral major; moderate but distinct weakness and commencing degeneration-reaction of acromial part of right trapezius; lessened capability, atrophy and degeneration-reaction of right and left biceps brachii. Weakness but not atrophy in flexors of right elbow. No wasting of deltoids, of the small muscles of hands, or interossei, no fibrillar tremor. Sensibility of skin normal.

Treatment consisted of methodical galvanization of cervical spine, galvanization and faradization of affected muscles, moderate hydropathic course, and it produced some slight improvement.

Of the other members of the family, in two brothers aged 26 and 22, the disease began at 21 and 18 years respectively, while in a sister, aged 25, the first symptoms were noticed at the age of 23. One brother had a slight systolic apex murmur, and slight pulmonary phthisis. The disease had the same commencement, and the same general characters as in the case described.

Summary.—Identical points in all four cases are;

Beginning of illness soon after puberty, between 18 and 23. Localization in upper part of body (especially upper half of trunk and upper extremities, whilst lower part of body was almost entirely free from disease), predilection for certain larger muscles (serratus magnus, pectoralis, biceps, triceps brachii, extensors and supinators of forearm of both sides of body), immunity of muscles of thenar and hypothenar, interossei and deltoids, absence of fibrillar tremor in atrophied muscles, absence of secondary "lipomatosis luxurians," no particular disturbance of sensibility, or at least decided absence of hyperæsthesia and anæsthesia. The disease presents itself in all four cases in a gradually increasing atrophy and weakness of the muscles mentioned, and deserves the name of "progressive muscle atrophy," inasmuch as it successively attacked different muscles, which gradually progressed to the highest degree of atrophy. It agrees further with "progressive muscular atrophy," in so far as (at least in Case I.) the faradic and galvanic investigation of the attacked muscles and their accessory motor nerves has produced characteristic results (excitability of muscles and nerve retained for both currents, as long as the atrophy of the muscles had not become extreme; degeneration-reaction, to a moderate degree, of the individual atrophied muscles.)

The disease differs from progressive muscular atrophy, in the hereditary disposition, and in not affecting the small muscles of hand and interossei, also in the absence of fibrillar tremor. It agrees with Erb's progressive muscular atrophy of youth, which affects the larger muscles of shoulder and arm, lasts for some decades, and then remains stationary and presents no fibrillar tremor; but differs in the fact that, in Erb's cases, the large muscles of thigh and buttocks are attacked; there is no electric reaction of degeneration and no family predisposition. The described cases agree with one of Schulze's in most points, but in his case hereditary disposition is absent. They differ from the cases of Leyden and Mædius, where the lower extremities are affected, no "lipomatosis luxurians" is present, the male sex chiefly attacked, and childhood is affected first.

Zimmerlin refers to another family, named Schuhmacher, in which three brothers were affected; no hereditary neurosis, no insanity; family consisted of

thirteen children; seven died young, cause unknown; three have atrophic paralysis. The disease began at 15, 13, and 8 years old respectively, with weakness and atrophy of both serratus magnus, rhomboids, pectoralis major of both sides, and to a less degree, biceps, triceps, supinators and extensors of forearm; while the deltoids, trapezius, infra- and supra-spinati, and small muscles of hand are not affected, and no fibrillar tremor. Differs from the Loosli family in all being boys, and so resembles Leyden's cases. In one case the mouth was a little drawn to the left, and he could not whistle. Some atrophy of left biceps, and to a less degree of left triceps, but their tendon reflexes are present; some atrophy and weakness of supinators and extensors of wrists; extension and abduction of right thumb weak. In the third case, which has existed for thirty-four years, both arms are wasted and weak, even the interossei and small muscles of hand; both thighs affected and almost powerless, extensors worse than flexors; both knees contracted, arthritis deformans in the right; no patellar tendon reflex; no "lipomatosis," no fibrillar tremor now. This last case began first in lower limbs, afterwards affecting the upper limbs, and fibrillar tremor was observed at first.

Dr. Zimmerlin thinks the disease in the two families shows an inherited tendency. In the Loosli family, severe muscular work may have been a cause, and the patients thought the disease came on at the time of life when they worked hardest.

He thinks that three possible pathological causes of the disease exist: 1. Myopathic change, primary disease of the muscles; 2. Neuropathic condition, multiple neuritis (Leyden); 3. Localization in spinal cord, as a form of chronic poliomyelitis anterior. The second condition is negated by absence of anæsthesia, and of marked electric changes. An autopsy can alone prove whether the disease is in the muscles or the spinal cord.—*Brain*.

HEMOPTYSIS AND ITS TREATMENT.—Dr. Taylor, in the *Lancet*, June, 1884, p. 1069, discusses those cases of hemoptysis in which there is a suspicion of pulmonary tubercle being present. Pulmonary hemorrhages are grouped under four heads: 1, the hemorrhage of the early stage of phthisis; 2, the hemorrhage occurring when

the disease is fairly advanced and is progressing; 3, the profuse hemorrhage of the last stage; 4, that occurring in cases of bronchitis, in 'bleeders,' in vicarious menstruation, and in mitral valvular disease. As regards treatment, the author states that in many cases he considers there is an undue precipitancy in employing the astringents usually advocated, and that in the early stage of pulmonary consumption a small amount of hemorrhage has been rather beneficial than otherwise. A blood-spitting at this period is merely a method to alleviate a congested apex. Consequently it is a congestion that has to be combated, not the subsequent hemorrhage. The best treatment in these cases is to attend to the patient's general health, ordering moderate exercise without fatigue. As regards climate, the author considers a residence in the high lands around Buxton and the Derbyshire Peak to be highly beneficial; whilst Bournemouth, Hastings, etc., are too relaxing. In cases where the pulmonary hemorrhage is severe it is better to give a good purgative than to rely on large doses of gallic acid, etc. An ice-bag placed on the chest is considered valueless, but the opposite line of treatment is highly recommended—viz., the application of hot flannels over the angles of the rib from the summit to the base of the thorax, *i.e.*, over the sympathetic ganglia. Turning to medicinal remedies, the chief drug which the author relies upon is opium, this acting like a charm if given alone, and in sufficient quantities. Should the hemorrhage be very profuse, digitalis may be added in doses of fifteen to twenty minims of the tincture. When opium is contra-indicated, then oil of turpentine or the liquid extract of ergot are said to be useful.—*London Medical Record*.

ACUTE PAINFUL PARAPLEGIA.—This is the name given by Dr. Dumolard, of Vizille, to a peculiar form of paraplegia observed by him in five patients. It begins by a sensation of pain and stiffness in the back, soon followed by the apparition of the same symptoms in the lower extremities, and sometimes in the arms. The pain increases gradually and may become excruciating. Fever is unusual, and the general state of health remains good. The reflex movements are much increased; but the legs can only be moved with great difficulty by the patient, and there is often

paresis of the bladder. After an acute period lasting from ten to fifteen days, the symptoms begin to disappear, and in four or five weeks the patient recovers entirely. Salicylate of soda and quinine have no influence over the disease. The best treatment seems to consist in blisters on the back, saline purgatives, and bromide of potassium. Dr. Dumolard thinks that this disease differs only in degree from the epidemic paraplegia observed fifteen years ago at Anzannon, in Spain, and described by Bockhammer. Further details can be found in the *Revue de Médecine*, July 10th, 1884.—*British Medical Journal*.

A CASE OF DYSTROPHIA AND OF SPONTANEOUS FALL OF THE NAILS IN PROGRESSIVE PARALYSIS.—Dr. Regis gives a case of this affection, the characteristics of which have been before noticed by MM. Joffroy and Pitres during the past two years in ataxics. Dr. Regis gives his observations in a case of general paralysis, where the nail of the left great toe was very much changed in its form, texture and color, looking like the scale of an oyster shell, and was ready to drop off, only adhering slightly by the root; beneath it was a little pus, which, on pressing the nail could be made to exude. On the right side the nail of the great toe was more dystrophic, and showed clearly on its superior surface alternate depressions and ridges, and in its thickness a special stratification of the lower layer, which was friable and pulverulent. This nail lay upon a thin layer of pus. Soon after the nail of the left great toe detached itself spontaneously, and a month afterwards, from a slight blow, the nail of the middle toe fell off. The sensitiveness of the tissue surrounding the nails was very much blunted. The nail of the left great toe has been reproduced, but in such a rudimentary manner as to appear abortive. The nail of the right great toe has not yet come off. The nail of the right middle toe has not yet grown.

Dr. Regis has noted this change of the nail in a number of cases of general paralysis. Moreover, this lesion is not limited to the toes, as with ataxics, the nails of the fingers are also attacked.—*Jour. Am. Med. Association*.

LEUCODERMA SYPHILITICUM.—Under this name a peculiar appearance of the skin is described. It consists of certain white patches, which sometimes remain

quite small, like papules, or may increase, and even coalesce so as to assume a confluent condition. In dark-skinned individuals they appear as white patches surrounded by a dark network. They are almost invariably situated on the neck, rarely on the back, scapular region, and chest, and more rarely still on the limbs and their extremities. This condition is ten times as common in women as in men. The spots usually appear from the fourth to the sixth month after infection, and usually last from five to fourteen months, rarely longer; but have been known to remain two, three, or even four years. Neisser (*Vierteljahrsschrift für Dermatol. und Syphilis*, 1883, p. 491) has seen over a hundred cases, in all of which their direct connection with syphilis was traced. They appeared in the site of patches of roseola and papules, and seemed to be formed by a sort of inflammatory process, and to be attended by a rapid heaping up of epithelium. No explanation is at present offered to account for their appearance in certain cases, and not in others.—*The Practitioner*.

SURGERY

COCYGO DYNIA. — A clinical lecture by Wm. Goodell, M.D. Published in *Phila. Med. Times*.

What are the symptoms of coccygodynia? They are pain in defecation, and pain in sitting down or rising up. In sitting down women suffering from this disease will take hold of the back of a chair and sit down on one buttock, so as to avoid placing any weight on the coccyx. In rising up they do not rise directly, for in so doing a strain is thrown on the coccyx, but they catch the back of the chair with their hands and lift themselves. I know of but one other disease that will produce this symptom and that is rare. It is the formation of a little abscess in the coccygeal region, in which, after opening, is found a small coil of hair. This sometimes gives a great deal of annoyance. There is another disease in which this symptom is simulated to a certain extent, that is fissure of the anus.

Another of the symptoms I have mentioned — pain in defecation — may also be caused by fissure of the anus, or by an inflamed pile, but the patient will be likely to recognize a pile. In the majority of these cases it will be found that the nerv-

ous system is below par, or that there is nervous prostration. In other cases the patients are healthy.

To-day I wish especially to point out the differences between the real, Simon pure disease and the mimicry of the disease, and the latter is far more common than the former.

The cause of the real disease is some injury to the coccyx. This is a moveable bone, and increases the antero-posterior diameter of the inferior strait from four inches to four and a half inches. This bone may be ankylosed, or the ligaments shortened, and this, by the way, is one objection to a woman in advanced life giving birth to a child. Under these circumstances the coccyx may not be able to bear the strain put upon it, and there may be overstretching of the ligaments, or, in the case of ankylosis, a positive fracture of the bone. I have heard the coccyx snap more than once. Two of these instances were forceps cases.

Another cause of injury is the bucking of a horse, in which the horse puts its four feet together and gives a jump, throwing its rider into the air, and in coming down the coccyx is often injured. I have seen several instances of this.

I have seen a very bad example of this trouble in a lady otherwise in excellent health, produced by her chair being withdrawn as she was about sitting down, causing her to fall on the floor, striking the coccyx. The bone was fractured, and, as she would not consent to the radical operation, I could not give her any relief.

Pure coccygodynia may be the result of dislocation, fracture or neuralgia.

The treatment of injuries occurring to the coccyx during labor should consist of keeping the patient at rest, the use of sufficient opium to relieve the pain — and usually this is not great, there being only a sense of soreness — and keeping the bowels bound for a week. In the two cases to which I have referred union took place. In one of these I think fracture took place; in the other the ligaments probably gave way.

I have seen other cases in which the bone was not injured, but in which the ligaments were broken, causing the bone to be very moveable, and occasioning the woman a great deal of discomfort.

When you get hold of a case of real Simon pure coccygodynia, the treatment should, in the first place, be directed to

lulling the pain in the nerves, for sometimes the nerves have been injured.

An excellent remedy is five grains of iodoform by suppository at night. It is important to avoid the use of morphia as much as possible, for such patients are very liable to become morphia eaters. When it can be done, it is better to give the remedy by the bowel. In fracture it is better to give it by the mouth.

Just here let me call attention to a mistake which is very commonly made. There is a widespread idea that the Latin noun, *os*, a mouth, is of the masculine gender, and you will frequently see written "*per orem*" for "*by the mouth*." *Os* is, in reality, a neuter noun of the third declension, and its accusative case is like the nominative, so that "*by the mouth*" should be written "*per os*," not "*per orem*."

In fracture, then, you should give the medicine *per os*, and keep the patient as quiet as possible, and sometimes you will be rewarded with a cure. The pain may be lulled by the injection of minute doses of carbolic acid around the coccyx.

If the worst comes, and it is impossible to relieve the pain by the measures mentioned, it will be necessary to extirpate the coccyx. I have done the operation but twice. I have, however, seen a number of cases in which it ought to have been done, but the patients would not consent.

In your text books you will find the following procedure recommended: Introduce a tenotomy knife under the skin and pass it around the coccyx, severing all its attachments, thus giving rest to the bone and affording an opportunity for repair. This operation is not an easy one to perform, and as the results are disappointing, I should, therefore, advise you not to perform it.

The proper plan of procedure is extirpation of the coccyx. In performing this operation an incision is made over the bone, passing down to its surface. All the muscular attachments are then severed, and, with the knife, the offending portion is disarticulated.

If there has been a fracture of the bone, the portion left behind should be examined and any roughness or irregularity removed.

The woman on whom I operated two months ago suffered terribly from the pain. She also had an abscess, which I am disposed to think came from the irritation of the broken bone. I found an ununited

fracture, and extirpated the broken portion of the bone. She was at once relieved.

The other case was caused by difficult labor, and the patient had become bedridden through her sufferings. She was also cured.

I think that after this operation it would be wise to insert a drainage tube, so that if there is any discharge from the bone it will find a convenient way of escape.

Then there is the mimicry of the disease, and this is much more common than the real coccygodynia. It occurs in girls who are overworked at school, and in married or unmarried women who have much care or trouble. It may arise from a positive injury. In hysterical cases, to use a homely expression, the nerves are "*spiling*" for an opportunity to make trouble. A girl goes skating, falls on her knees, and is laid up for years with an hysterical knee. In the same way there may be an hysterical coccyx, from a fall. The pains of the mimicry of the disease are very analogous to those of the real disease. They are not quite so severe, still, they are sufficiently marked to cause a great deal of suffering. It is not always easy to make the diagnosis between the real and the simulated. One who is accustomed to these cases can almost make the diagnosis from the expression of the face. The woman who has the Simon pure disease will have all the evidences of suffering in her face, whereas the woman with the mimicry of the disease may tell you of the agonies she suffers with a smile on her countenance, or what I call the hysterical mask. This is one of my ways of diagnosing these cases, but I was once very badly caught. I had under my care a very bright lady, an excellent metaphysician, and much interested in such studies. I mention this point as it has a bearing on the origin of the trouble. While riding a horse it bucked, and ever afterward she had pain in the coccyx. I was completely deluded. I concluded that here we had sufficient cause, and that this was a case of the real disease. I examined her, and found a retroverted womb and prolapse of both ovaries. With a pessary I was able to restore the womb and ovaries to their normal position, and this effected considerable improvement in the pain in the coccyx. The pain, however, still continuing, I decided to extirpate the coccyx. The day and hour for the operation were appointed, and all the preparations were

made, when suddenly, as if by magic, the pain disappeared. She had been in a receptive condition, the nerves were "spiling" for an excuse to make mischief, and the injury offered them the excuse. I speak in this way because I can not define these nervous fluids. We do not understand their action, and perhaps never shall.

When these cases come to you do not be too anxious to cut away the coccyx. There is no objection to threatening it occasionally. Try all the general measures and use local placebos, for their impression on the mind and also for their positive local effect. Take it all in all, I like iodoform better than anything else. It should be administered by suppository in doses of three to five grains. Another excellent remedy is belladonna by suppository. Opium should be avoided. The general health should be improved. Put the patient to bed, have her rubbed, keep her friends from coming to see her, feed her as much as possible, giving her large quantities of milk, using malt and iron, and little by little you will get the upper hand of the trouble. It is always well to begin the treatment with decided doses of bromide of potassium, which may at once cure the coccygodynia. If the pain is decidedly relieved by large doses of bromide, I feel very confident that it is of nervous origin. It is, I think, safer to look first upon the affection as of nervous origin rather than traumatic.

There is one point to which I neglected to refer, and that is, the way to detect an injury of the coccyx. The index finger should be passed into the rectum, and the thumb over the coccyx. You must be careful not to be misled by the statement of the patient, for the mere insertion of the finger is a shock, and the woman at once complains before you have pressed the parts. Before manipulating the parts, ask if it gives pain; then pretend to move the bone, and see if any complaint is made, after which get directly over the bone. In real coccygodynia, the slightest touch will give very great pain. This is almost as sensitive as a caruncle of the meatus urinarius.

One word in regard to the preparations of iron. There are certain preparations which I think better for nerve cases than others. Almost all nervous stomachs will bear the reduced iron or iron by hydrogen. I often combine it with arsenic. In regard to strychnia, my experience is that in

many of these nervous cases it cannot be given with profit in the early part of the treatment. The nerves are then too ready to resent anything which makes any impression on them. One-sixtieth of a grain will, under such circumstances, sometimes set the jaws. The muriated tincture of iron is an excellent preparation when it can be disguised. If the patient has a good set of teeth, I should not give it. It is liable not only to discolor, but also to do positive injury to the teeth. It is, therefore, better, as a rule, to avoid the use of the tincture of the chloride of iron. Blaud's pill, which consists of the dried sulphate of iron with bicarbonate of potassium, is often an excellent preparation. With reference to dialysed iron, I have met with some cases in which it did good, but in the majority it was of no benefit. I am disposed to attribute this to changes which occur in the preparation, and I have almost entirely given up its use.

In treating these cases of the simulated disease, the patients, as I have already said, must be well nourished. They should receive malt and large quantities of milk. They will grow fat, and, as they do so, the nerves will become more tractable. This is like other nerve pains which women often complain of, and which may appear in the head, in the back, or even in the toes. I have seen a severe case in which it was located in the instep. All pains of this character are to be treated in much the same way.

PATHOLOGY OF CYSTITIS.—According to M. Hache (*Revue de Chir.*, No. 4, 1884) lesions of the bladder and irritation applied directly to its wall and mucous membrane do not constitute a necessary and sufficient cause of cystitis, except in case of vesical tuberculosis, or of the presence of a rough and irregularly shaped foreign body. The causes capable by themselves of constantly determining inflammation of the bladder are very rare. Beyond tubercular cystitis, and other forms of cystitis due to some general morbid condition—as, for instance, those of rheumatic, gouty, and infective nature, which are not of frequent occurrence—there cannot be included in the above category scarcely any save severe accidental or surgical traumatism of the bladder, and too sudden and complete evacuation of this organ after over-distension. Gonorrhœal urethritis does not often

give rise to cystitis, except under the influence of some occasional cause or in a predisposed subject. Most of the predisposing causes act quite simply by determining a more or less persistent congestion of the bladder; others have a more or less obscure mode of action, although their influence is very decided. Chief amongst these predisposing causes are the tubercular, rheumatic, and gouty diatheses. These predisposing causes may sometimes become exciting causes by increase, extension, or repetition of their action, or through association with that of other causes of the same group. These latter causes are congestion and slight inflammation of neighboring organs, especially in the female; tumors, calculi, and foreign bodies in the bladder; incomplete retention of urine, with or without distension; habitual resistance to the needs of micturating, and all the causes of dysuria and functional over-activity of the bladder; stricture and foreign bodies in the urethra, hypertrophy of the prostate, etc. Finally, the part of exciting cause is more especially played by sudden and complete retention, by cold, by catheterism or exploration of the bladder. The latter cause can act only on a bladder predisposed by the presence of a tumor or calculus; the other two causes are more active, and may even by themselves suffice to excite an attack of cystitis. M. Hache's study of the pathogeny of cystitis has led him to insist on the importance of congestion and diathetic influences, especially the tubercular diathesis, and on the relatively limited part played by lesions of the urethra and prostate.—*London Med. Record.*

HYPODERMIC INJECTION OF AMYL FOLLOWED BY EPILEPTIFORM CONVULSIONS.—Dr. Sydney Ringer has noticed the occasional action of the nitrite of amyl upon the heart, and the strange effect sometimes produced upon the nervous centres. He says: 'I have seen one case where a woman immediately after a drop dose turned deadly pale, felt very giddy, and then became partially unconscious, remaining so for ten minutes.' And again: 'A delicate woman, after one-thirtieth of a drop, passed in a few moments into a trance-like state.' In a case described by Dr. Strahan (*Journal of Mental Science*, July) a chronic maniac, aged 53, had suffered for several days from severe lumbago; a ten-minim dose of a 10

per cent. solution of nitrite of amyl in rectified spirits was injected hypodermically. 'Immediately after the injection the pain disappeared. He got up from the bed, and at my request stooped and touched the floor with his fingers. In, as nearly as could be guessed, about a minute and a half, he suddenly became deadly pale, and sank back upon the bed.' Then his face, head (bald), and neck became congested, and he was strongly convulsed for about half a minute. The convulsion affected the face and arms strongly, the legs slightly. The teeth were ground, and the breathing was suspended. In a few minutes, after coming out of this fit, he was attacked by a second one, during which the heart's action became very faint. He was made to inhale some chloroform, and the fits did not return. The lumbago entirely disappeared. This observation is interesting, as inhalations of nitrite of amyl have been recommended, both in this country and in Italy, to check the recurrence of epileptic convulsions. — *London Medical Record.*

EXOPHTHALMIC GOITRE.—The general results at which Ballet (*Revue de Médecine*) arrives after an inquiry into this subject are as follows:

1. To the classical symptoms of exophthalmic goitre (palpitations, swelling of the neck, tremor,) there are occasionally added others which, like them, are attributable to disorders of the nervous system.

2. These symptoms are on the one hand *convulsive* (epileptic or epileptiform attacks), or on the other *paralytic* (hemiplegia or paraplegia); also pretty frequently albuminuria, glycosuria, or simple polyuria may be observed.

3. These convulsive or paralytic complications appear to arise, not as the direct result of the Basedow's disease, but of another coincident neurosis (epilepsy, hysteria).

4. Sometimes certain convulsive phenomena (epileptiform attacks) seem intimately associated with exophthalmic goitre itself, and the special clinical conditions under which they are manifested authorize us in connecting them with disturbance of the cerebro-bulbar circulation, itself occasioned by perturbation of the action of the heart.

5. Among the paralytic disturbances some are of minor importance, such as the

weakness of the hands, the temporary paresis of one or both upper extremities, and the feebleness of the lower limbs. They may be looked upon as directly dependent either upon the tremor, or on functional derangement of the cerebral circulation.

6. The polyuria, albuminuria, and glycosuria are probably more frequent than might be supposed from previous researches, and they indicate a derangement of the bulbar innervation.—*Brain*.

MODIFICATION OF COLOTOMY.—At the Thirteenth Congress of the German Surgical Association, Dr. Madelung, of Rostock, reported that last winter he had had an opportunity of practicing a modification of colotomy, by which the utility of this operation in cases of cancer of the rectum is considerably increased. This surgeon, instead of making a small opening in the colon, cuts through the whole thickness of the gut, and then secures the central end to the abdominal wound, in order to form the false anus, whilst the peripheral end is closed and allowed to sink down into the abdominal cavity. This operation is more difficult than ordinary colotomy. Great care must, of course, be taken to distinguish the centripetal from the centrifugal portion of gut. The great advantage of

the modification as proved, Madelung states, in his case, is that the cancerous rectum is protected, not only against the mechanical irritation of the fecal matter forcing its way through the stricture, but also against the chemical and septic irritation of such matter at the seat of operation. The surrounding skin can be kept clean, since it is to regurgitation of fecal matter that has passed by the opening in the colon that the continuous defecation from the prefatural anus, observed in many cases, is especially due. The modification also prevents the very frequent painful accumulation of fecal matter between the cancerous stricture and the external sphincter ani. Finally, the tendency to prolapse of the intestine is diminished. This modified colotomy is not applicable in cases in which the operation is performed at a late stage of the disease, when the intestines are over-distended, and the patient is much exhausted. Under more favorable conditions, it may be practiced with good prospects, as well in the treatment of syphilitic and gonorrhœal, as of cancerous stricture of the rectum.—*London Medical Record*.

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Original Articles.

CONGENITAL PHIMOSIS AS A CAUSE OF CENTRAL AND PERIPHERAL PARALYSIS.

By N. F. SCHWARTZ, M.D., Canal Dover,
Ohio.

How an unhealthy condition of the genital organs in the adult may act as an important factor in the etiology of various nervous phenomena sometimes manifested can be readily understood when the very intimate anatomico-physiological relations of these parts with those disturbed are taken into consideration. So well is this known to the profession that when consulted for any important nervous derangement, the generative organs are suspected and promptly interrogated as a most probable cause of the trouble. More particularly is this true of the adult female during the period of free functional activity of her generative system; or convulsions or mental imbecility in the male is frequently due to masturbation and atrophy of the testicles, etc.

But that central or peripheral nervous disturbances in the child, when the genital organs are anatomically imperfect and a physiological nonentity, can be due to the same cause cannot be so easily understood. Their presence as an etiological factor would seem as entirely antipodal. On the one hand there exists the fullest activity, an abundant supply of keenly active sensory nerves are present to note the most subtle departure from the normal condition, the circulation furnishes an abundant supply of blood, enough to insure nutrition and the fullest functional capacity to the organs of reproduction. On the other hand the conditions are entirely negative. No functional activity,—even development remains for many years in *statu quo*, and yet, with all these opposite conditions, certain nervous disturbances frequently found in children can be unmistakably traced to unhealthy conditions of the genital organs, and when these were corrected the nervous disorders have promptly disappeared. That this is true of congenital phimosis I have had frequent opportunity to observe, and will report my observations in this relation. The literature upon this subject is not abundant. Our standard authorities treat phimosis only as it presents itself as an impediment to urination,

or as a source of annoyance when the preputial redundancy becomes inflamed as a result of urinary infiltration. Current literature has not added much. The most instructive article on this same subject is a monograph by Dr. W. J. Conklin, of Dayton, O., and read before the Ohio State Medical Society. In his article he reports a number of cases where the nervous derangement was cured by circumcision alone, and this after obstinately resisting all other treatment. My own experience will most fully bear out Dr. Conklin's.

I will take from my case book a few of the most important cases bearing upon this subject:

John F., aged 12 years, of German parentage and having a good family history. Has had epileptic convulsions since eighteen months old, and has for this been under treatment more or less constantly since, without being benefited by way of arresting the convulsive seizures, indeed is almost daily growing worse; from an occasional convulsion he now has one almost daily; his mental faculties are much impaired and he now bears the appearance of a mental imbecile; his enunciation is indistinct and his gait unsteady and shambling; appetite is voracious and digestion good; sleeps well at times, and then again has convulsions during night.

His condition was a pitiable one and his previous physician has rendered a very unpromising prognosis to the parents. Having very carefully considered his case without finding a cause for all this trouble I suspected that self abuse might lie at the bottom of all this, but all inquiry applied to parents and patient resulted negatively. I then made an examination of his genitals, which revealed the cause, he was phimosed he had a most redundant prepuce and it was impossible to expose any part of the glans. Though there was no local tenderness nor had he ever complained of pain when voiding urine. I looked upon this as the cause underlying all this train of symptoms, and so expressed myself to his parents, and indicating to them the necessity of an operation as the only means of cure. To this they would not consent, as they could not be made to understand how this condition would cause the boy to have fits. Refusing to prescribe for him other than the operation, he was taken home and placed in the hands of a very smart doctor, one

who was "death on fits" and who scoffed at the idea that phimosis would cause a boy to have fits, etc. For nearly two months this boy was powdered, blistered, and greased, without any cessation in the number and violence of the convulsions, at the end of this time he was again brought to me with every symptoms above narrated increased, his indistinct articulation was now a complete aphasia, and his gait that of one having locomotor ataxia. They now manifested a willingness to submit to any measure promising a cure, and on the day following he was circumcised by ablation of the prepuce, the mucus surfaces were glued together and it was with difficulty the glans was exposed, a considerable quantity of smegma was found behind the corona, after carefully completing the details of the operation when to my surprise he was able to articulate plainly, his ideas were brighter, having enjoined quiet made no observation of his gait, he had had no convulsions since the circumcision, a longer period without a spasm than he has had for nearly a year, after removing the sutures I left him, directing him to be brought to my office in one week from the day of circumcision which was complied with. He improved uninterruptedly from the hour of circumcision completely recovering his voice and full power of locomotion, his intellect cleared up to ordinary power, all without one dose of medicine, and never had another convulsion. In this case there was evidently progressive central paralysis, involving the second anterior convolutions, resulting in complete aphasia, as well as a general nervous hyperaesthesia and peripheral paralysis in lower extremities, derangement of co-ordination and ideation. Evidently, as the results of the measures applied proved, due to congenital phimosis, causing first convulsions, then this long continued and oft-repeated violence to the very sensitive and impressible nervous organization of the child, so misdirected normal nutrition as to entail the entire train of symptoms subsequently manifested.

CASE 2d.—Freddie S., aged 3 years, and a very bright little fellow, was frequently taken suddenly ill, became very nervous, seemingly on the very verge of unconsciousness. Seeing him always in case of these sudden nervous outbursts, I began looking about me for a reason for all this disturbance. When over these nervous paroxysms I could find nothing abnormal except

some enlargement of the tonsils and swelling of the parotids, which would always become very tender during and after these nerve storms. He continued to grow worse until he had a violent epileptic seizure, and it was then I made examination of his genitals, and discovered the cause—phimosis. No amount of retraction of the prepuce tolerable would reveal the glans. He was at once circumcised, and there was not another nervous spell, no more convulsions, and the enlarged tonsils and parotids disappeared.

Hermann H., aged 4 years, was brought to me for a stoppage in his speech—a well-marked stutter. Having no remedy for this, I advised time, which I thought would bring about a cure, but instead of improving, the stutter grew worse. Fortunately, as the result proved, the boy complained of pain on urinating, for which I was consulted, and found the cause of the pain to be phimosis. There was some ballooning of the prepuce, and the penis was very irritable. Circumcision was at once recommended, but most strenuously opposed by the mother. The father, allowing his better judgment to overcome his feelings, brought the boy to my office, where away from his mother, and under the influence of an anæsthetic he was circumcised, which not only relieved him of pain during micturition, but *completely cured the stutter*, of which the father informed me with great pleasure the second day after the operation.

In this case the results of the circumcision far surpassed our expectations. The operation was performed for the relief of the painful micturition only, not even hoping to remove the impediment in his speech thereby. That it was not a coincidence I am assured in the fact that in my first case complete aphasia was cured by circumcision.

CASE 4th.—Anton H., aged 18 months, had walked well for several months, but gradually grew less able to bear weight upon the lower extremities, and when I was called to see him, had lost all power of locomotion. He was then, and had been for some time previous, under treatment for spinal disease. Seeing him in consultation, I examined the case carefully, directing my interrogations with a view to agree with the attending physician that there was disease of the cord. Not being able to satisfy myself that there was

any structural change in the cord, I suggested an examination of the genitals. A phimosis was at once discovered, and an operation determined upon, which was done the day following under ether, resulting in a speedy and complete cure of the paralysis without any further medication.

CASE No. 5, and last case, was brought to my office Sept. 14, 1884, for enlargement of the tonsils and parotid glands, and inability to walk. Frank S., aged four years, has had several convulsions. Swelling has been present about the neck for several months, and at times throat is quite tender. The swelling of the parotid resembles that of the mumps. That there is partial paralysis of some of the muscles of throat and larynx is quite apparent in his indistinct articulation. Co-ordination is impaired, his gait is unsteady, and choreic; so that when told to walk across the room, he always moves to the right. When told to close his eyes and stand erect, he staggers to the right.

The father was much discouraged, as the boy had constantly been under medical treatment since the first symptoms appeared many months ago. On the day he was brought to me he seemed worse than ever. I proceeded to examine the little patient, and finding no tenderness along the spine to account for the partial paralysis of the lower extremities, I examined his genital organs and found a phimosis. This, from my previous experience, I concluded to be the cause of the symptoms present. Circumcision was at once performed and the boy sent home. I visited him on the day after the operation and found him much improved. He could walk and talk much better, and there was even then a marked decrease in the swelling of the neck. Sept. 17th, three days after the circumcision, he could talk plainly, and the power of locomotion was completely restored, and in a few more days hope to see all his powers fully restored.

As remarked by way of preface, these reflex manifestations are difficult to explain when occurring in a child, but that they do occur are clinical facts, and until a better reason is furnished us we attribute their occurrence to the extremely sensitive and exquisitely impressible nervous system of the child.

In treating highly nervous male children where there is no evident cause for this nervous disturbance, we should never fail

to carefully interrogate the genital organs. When phimosis is discovered in a child, even though it may not have given rise to any local disturbance or reflex phenomena, circumcision should be performed, thus anticipating all the evils this malformation might entail.

A CASE OF PLACENTA PREVIA.

By H. V. SWERINGEN, A.M., M.D., Fort Wayne, Ind.

On Wednesday, July 16th, 1884, I visited a patient residing in New Haven, a village six miles distant from Fort Wayne. Failing to make the returning train, which was due in less than an hour from the time of my arrival, I concluded to spend the time which would elapse before the next train was due by visiting the resident professional brethren with whom I had the honor of an acquaintance.

Dropping into the office of Dr. M. F. Williamson, I found the doctor "at home", but considerably fatigued from several days' and nights' hard professional work. During the course of our conversation he informed me that he had at present a case that gave him very much anxiety, being that of a lady, pregnant, near her time, who, for several weeks past, had occasional hemorrhages, one of which was quite profuse, and who was at this very moment, he presumed, suffering a more or less oozing of blood, as he had just returned from her bedside where he had succeeded in checking a more active hemorrhage.

I very naturally suggested to the doctor that he had a case of placenta previa, which, he said, he was fearful of, and, owing to the fact that the husband, a wealthy gentleman, having already lost three wives in childbirth, and having but very recently, for the first time, engaged his professional services, the outlook was to him not a little annoying.

Having informed the doctor what I would do if the case was mine, I left him and made my way toward the depot, the time for the departure of the freight train which I expected to take being not very far distant. In the course of fifteen or twenty minutes it arrived, when I boarded the caboose, but there learned that considerable time would elapse before it would "pull out." While waiting Dr. Williamson entered and requested me to see his patient with him, he having been sent for

soon after I left his office, the messenger informing him that his patient was bleeding copiously. The doctor immediately drove over, her residence being within sight and but a few fields distant from the depot, and, making known to the husband the character and danger of his wife's condition and the necessity of prompt and positive treatment, returned as above stated.

I accompanied the doctor, and found upon examination of his patient that it was a case of placenta previa. She was not in labor and yet the os was open to the size of a silver dollar, soft and dilatable, which condition was probably due to the hemorrhage, a large clot of blood being present in the vagina. The membranes were ruptured and nearly if not quite one-half of the placenta was detached and presenting. The child's head was in the first position, or left occipito ant., and the mother was already much exhausted from loss of blood. Two teaspoonfuls of fluid extract of ergot was now given, when, with the doctor's forceps, I made an attempt to deliver the head but failed, on account of the placenta, in applying them. No time was now to be lost, as the blood was flowing in a stream; I therefore reached up, got hold of the feet, turned and delivered a *living child*, which was, however, *apparently* dead for some minutes. I at once delivered the placenta and introduced into the womb a piece of ice as large as my fist, and had but a short time to wait until contractions took place and the womb firmly closed. The mother and child made a splendid recovery.

As a feature of the case not entirely uninteresting, I may add that my bill for my individual services was two hundred dollars, the gentleman to whom I presented it being worth about forty thousand. He kicked vigorously, when I deducted fifty per cent., leaving a bill of one hundred dollars, which he still considers extortionate. Whether or not he had his fifth wife "spotted" and was more or less disappointed at the results of my treatment of his fourth, I am at a loss to determine.

CINCINNATI HOSPITAL.—The regular course of CLINICAL LECTURES will commence Monday, September 22d, 1884, and is open to practitioners and students. Price of ticket, \$5.00.

For further particulars apply at the Hospital.

THE CINCINNATI LANCET AND CLINIC

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SUBSCRIBERS TO THE LANCET AND CLINIC who have not already remitted their subscription will confer a favor on the publisher by promptly doing so.

Cincinnati, September 20, 1884.

The Week.

At the next meeting of the Cincinnati Medical Society, Tuesday evening, Sept. 23d, Dr. W. H. Taylor will read a report of his last service in the Cincinnati Hospital.

ACADEMY OF MEDICINE.—Monday, Sept. 22d, Dr. Hottendorf will read a paper on "The Abortive Treatment of Typhoid Fever." Dr. E. G. Zinke will report a case of "Colloid Cancer of the Mesentery," occurring in a boy ten years of age.

So.—The Editor of the Columbus Medical Journal says:

This is the season when college circulars add largely to the physician's mail, and also to the contents of his waste-basket. Many of our exchanges are given to moralizing, as they view these accumulating evidences of thrift, but this JOURNAL though, like Barnum's show, "highly moral," never moralizes.

In his next paragraph goes on to say—One of the Cleveland Medical College announces, as one of its Faculty, a Chaplain! We know of several colleges which need praying for—and *with*—but we know of no others that own up to it.

Consistency—Friend Baldwin.

MISSISSIPPI VALLEY MEDICAL SOCIETY.

The tenth annual session of the Mississippi Valley Medical Society (formerly "The Tri-State Medical Society"), will be held at Springfield, Illinois, September 23, 24, 25, and 26, 1884. Meetings will be held at Representative Hall, State House. Each session will be called promptly. Papers are limited by rule to twenty-five minutes. Time for discussion will be given after each series of papers. All physicians in attendance are requested to apply to the Secretary for tickets of membership.

The following railroads offer to issue full fare tickets to members going; and return tickets for one-third regular rates:

Wabash, St. Louis & Pacific; Illinois Central; Ohio & Mississippi; Peoria, Decatur & Evansville; Chicago & Alton; Cairo Short Line, one cent per mile returning; C., B. & Q.; I. B. & W.; Vandalia Line, one cent per mile returning.

Hotels: Leland, St. Nicholas, Revere House, Palace Hotel, and Western Hotel. Headquarters at Leland Hotel.

ORDER OF BUSINESS.

First Session, Tuesday, Sept. 23, 10 a.m.

Prayer, Rev. R. O. Post.

Address of Welcome, by his Excellency, Gov. J. M. Hamilton.

Response.

Report of Committee of Arrangements.

Report of Committee on Programme.

Call for voluntary papers.

Call for papers in their order.

Admission of new members.

MEDICAL SECTION.

Second Session, Tuesday Afternoon, 2 p.m.

Chronic Dysentery, Chas Knapp, M.D., Evansville, Ind.

Chronic Dysentery, Edward Kemp, M.D., Ferdinand, Ind.

Clinical Notes, Donald McLean, M.D., Detroit, Mich.

Paper, J. P. Mathews, M.D., Carlinville, Ill.

Laryngeal Phthisis, Thos. F. Rumbold, M.D., St. Louis, Mo.

Prophylaxis of Phthisis, W. Porter, M.D., St. Louis, Mo.

Gall-Stones, their Prevention and Treatment, Wm. Byrd, M.D., Quincy, Ill.

Paper, Walter Hay, M.D., Chicago.

Is Cancer a Local Disease? L. M. Kyle, M.D., Manchester, Ind.

Neuroses of the Digestive Apparatus, J. O. Jewell, M.D., Chicago.

Rare Cases from Practice, A. M. Owen, M.D., Evansville.

Third Session, Tuesday Evening, 8 p.m.

President's Address, "Medical Society Work," B. M. Griffith, M.D., Springfield.

Fourth Session, Sept. 24, 9 a.m.

Announcement of Committee on Nominations.

What Practical Benefits are to be Derived from the Germ Theory of Disease? W. S. Haymond, M.D., Indianapolis.

Paper, Arch. Dixon, M.D., Henderson, Ky.

Report of a Case of Albuminuria, G. V. Woolen, M.D., Indianapolis.

Paper, A. P. Brown, M.D., Jefferson, Texas.

Relation of Nerve to Muscle—Being the basis of antipyretic treatment in fevers and inflammations, R. E. Houghton, M.D., Indianapolis.

Thoughts on Evolution, Amos Sawyer, M.D., Hillsboro, Ill.

Medical Education and Regulation of Practice of Medicine in the United States, J. H. Rauch, M.D., Springfield, Ill.

GYNECOLOGICAL SECTION.

Fifth Session, Wednesday Afternoon, 2 p.m.

Present State of Gynecology and its Relation to General Medicine, Sarah Hackett Stevenson, M.D., Chicago.

"An Enemy Came and Sowed Tares," Joseph Eastman, M.D., Indianapolis.

Paper, A. J. Stone, M.D., St. Paul, Minn.

New Operation for Chronic Inversion of the Uterus, W. H. Wathen, M.D., Louisville, Ky.

Paper, J. W. Thompson, M.D., Paducah, Ky.

Electricity in Gynecological Practice, H. B. Buck, M.D., Springfield, Ill.

Paper, C. A. L. Reed, M.D., Hamilton, Ohio.

Treatment of Cystitis in the Female, E. C. Dudley, M.D., Chicago.

Perimetritis, T. S. Galbraith, M.D., Seymour, Ind.

Means of Relief in Difficult Labors, Geo. B. Walker, M.D., Evansville, Ind.

Sixth Session, Wednesday Evening, 8 p.m.

Preventive Medicine, H. A. Johnson, M.D., Chicago.

SURGICAL SECTION.

Seventh Session, Sept. 25, 9 a.m.

Repair of Bones, H. C. Fairbrother, M.D., East St. Louis, Ill.

Report of Case of Malignant Disease of the Testicles, J. A. Sutcliffe, M.D., Indianapolis, Ind.

Paper, Duncan Eve, M.D., Nashville, Tenn.

Trophic Nerve Influence in the Healing of Wounds, Wm. H. Bell, M.D., Logansport, Ind.

Paper, W. T. Briggs, M.D., Nashville, Tenn.

Eighth Session, Thursday Afternoon, 2 p.m.

A New Head-Rest in Spinal Disease, C. E. Webster, M.D., Chicago.

Report on Surgery for the Past Year, C. A. Wells, M.D., Red Clay, Ga.

Paper, L. B. Todd, M.D., Lexington, Ky.

Chronic Torticollis, W. F. Billard, M.D., Boonville, Ind.

Ninth Session, Thursday Evening, 8-10:30.

MICROSCOPICAL SOIREE.

Notice.—Those having interesting specimens will please bring them. A sufficient number of good microscopes can be procured and will be on hand.

OPHTHALMIC AND AURAL SECTION.

Tenth Session, Sept. 26, 9 a.m.

The Use of the Actual Cautery in Eye Surgery, J. O. Stillson, M.D., Indianapolis, Ind.

Chronic Dacryo-Cystitis, John E. Harper, M.D., Chicago, Ill.

Paper, Dudley S. Reynolds, M.D., Louisville, Ky.

Penetrating Wounds of the Cornea, T. J. Dills, M.D., Fort Wayne, Ind.

MISCELLANEOUS SECTION.

Eleventh Session, Friday Afternoon, 2 p.m.

Insanity Defined, Chas. Hughes, M.D., St. Louis, Mo.

Insanity, C. B. Stemen, M.D., Fort Wayne, Ind.

Hospital Observations in Europe, David Prince, M.D., Jacksonville, Ill.

Will Relate the Impressions I Experienced in my Trip abroad, Edward Borck, M.D., St. Louis, Mo.

The Relation of Medical Education to State License, Romain J. Curtis, M.D., Joliet, Ill.

Life Insurance and the Medical Profession, I. N. Danforth, M.D., Chicago.

OFFICERS.

B. M. Griffith, M.D., Springfield, Ill., President.

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F. L. Matthews, M.D., Chairman of Committee on Arrangements.

THE BACILLUS OF THE CHOLERA.—(*Jour. de Med. et de Chir.*) The microbe of the cholera Asiaticum is a microbe of a very peculiar form, like a comma, and was found in the intestines of every person deceased from cholera. Observations were repeated as a precaution in the deceased from dysentery and other diseases, but the presence of this bacillus was never revealed.

The quantity of the bacillus varies according to the stage of the disease. They are not very numerous in the first period, but in the second are exceedingly numerous, decreasing in the third.

Up to this time the bacillus has never been inoculated with success in the animals.

The bacilli remain alive on the clothes, on the paper, and also on the ground, in the choleraic dejections, where they multiply themselves, favored by the conditions of humidity. This microbe was also artificially cultivated in jelly.

It is important in the history of this microbe to remark that it was never found in the stomach, and it seems that the normal secretion of the stomach is capable of producing its destruction. Koch believes that the bacillus from the stomach passes into the stomach only when some gastric disturbance exists which prevents its destruction by the secretions of the stomach.

The bacillus of the cholera is destroyed by dryness, therefore it is probable that the germ of the cholera can remain as a form of durable spores, which causes the disease to be spread at long intervals.

It is interesting for the ætiology of the disease to remark that in Bengal many small lakes surround the dwellings, and

cholera many times arises epidemically in such places. The water of these lakes is dirty with the dejections of the inhabitants, where they also wash their clothes and use the same water for drinking. In the water many bacilli were found, and probably it is the vehicle spreading the cholera. A. R.

ASIATIC CHOLERA—AN INTERPELLATION IN THE GERMAN PARLIAMENT.—After a member of the German Parliament had interpellated the government concerning the possible danger of an invasion of the German empire by the Asiatic cholera, Mr. von Botticher, Secretary of the Interior, replied to the interpellation June 28, of this year. The stenographic report, as published by the *Deutsche Med. Zeit.*, No. 55, July 10, is before us; and as the debate which ensued contains some facts of importance and some news, which have not yet appeared in print, we have made in the following a short extract of the minutes for the benefit of our readers.

The Secretary had expressed his thanks to the interpellator for having thus given him an opportunity to exert a quieting influence on the whole nation. He then mentioned that the government, immediately on receipt of the news of the outbreak of cholera, at once took steps to obtain authentic information regarding the character of the disease in Toulon, and to consider the measures necessary to prevent an eventual invasion of the empire by the epidemic disease. While the physicians in Toulon had expressed themselves to the effect that the malady raging in Toulon was really the Asiatic cholera, the French government did not seem to be convinced of it, but believed it to be a sporadic complaint, which would probably be of short duration and not spread extensively. This being the present state of affairs, the Minister considered it his duty to watch cautiously the progress of the disease, and meanwhile not to neglect the study of the question, how the epidemic, should it spread, might be prevented from invading Germany, and how, should it enter, its ravages might be limited to the original places of invasion. He then continued, that, thanks to the researches of the German Cholera Commission and thanks to the results achieved by the same, these questions could be debated far more intelligently, and would produce more certain and reliable measures than had ever previously been possible.

That the same morning a commission by the Chancellor had met for the very purpose of considering these questions, and as such men as Dr. Koch and Dr. von Pettenkofer were members of the Commission, the most important results might be expected from its deliberation. While these were not yet concluded, the Minister, who was present at the meeting, could inform Parliament, and through it the German nation, that it had been decided, by no means to draw a cordon around the Empire, for past experience had proven that such a measure had never achieved its purpose, viz., that of preventing the spread of the disease.

At the request of Doctor Koch, in Egypt as well as in India, a cordon had been drawn around the affected districts; but though the measure had been executed as strictly as possible anywhere, it had not met with any fortunate result, the epidemic disease having spread just the same. The Minister, therefore, could assure Parliament that even in case of the spreading of the Asiatic cholera, the common intercourse with a friendly nation, in whose land the disease was ravaging, would by no means be interfered with, and under no circumstances would a cordon be drawn around the Empire.

But there were other measures, attended with far better results, which could be taken and which would achieve their purpose. While the Minister was not at liberty to foretell the result of the deliberations of the Commission, he might refer to a passage in the report of Dr. Koch, who, probably at present the highest authority on the subject, says:

"I am convinced that, based upon the result which the cholera expedition sent out by the Empire has obtained, measures can be taken which will effectually prevent in future the spreading of the disease in the interior of the country."

"More, gentlemen," concluded the Minister, "we cannot expect. May, by the Lord's will, such measures not become necessary." (Bravo from all sides of the house).

Member of Parliament Dr. Virchow then spoke. He drew the attention of the Government to the fact that they had to look first to France for such measures as are needed to prevent the spread of the cholera. "Any civilized nation, in whose country an epidemic disease decimated

mankind, owes to the world to do all in its power to call a halt to the spreading of the contagion. And in this respect nothing is worse than for a government like France to imagine that the disease might *not* be the Asiatic cholera, and thus allow most valuable time to roll by without taking energetic measures. In a case of doubt, it is always better to suppose the worse and to act accordingly; for measures which shall prevent the spread of an epidemic disease never do harm, but have the most salutary influence on the health of the population of any country.

"A transport ship arrives from India, then the seat of the cholera, and anchors in the port of Toulon, where its crew and the transport are put ashore. Shortly after, cases of cholera happen in Toulon, and still to have doubt of their being anything but genuine cholera, is a little strong. In this manner sporadic cases of the disease never happened. And lest should such a thought occur in Toulon, which for centuries as the place of import of all oriental epidemics—a true pest-place. The French Government should have rather at once taken it for granted that they had to do with the Asiatic cholera.

But there is another place where a stricter quarantine should be observed, a place where alone the importation into Europe of all Asiatic epidemics could be prevented: I mean the Suez canal. Let me remind you of the English ship 'Crocodile.' On its passage from India to the Suez canal six cases of Asiatic cholera had happened and ended fatally. Notwithstanding this fact, a clear bill of health was given to the 'Crocodile' in Suez. The ship left, and between Suez and Port Said another fatal case occurred on board of her. Still in Port Said the same certificate of health was granted to her, and she was permitted to proceed to Malta. On this trip nine new cases happened, but nevertheless the ship met with the same criminal negligence, and was allowed to depart for England. That the disease was not imported into England is one of those fortunate occurrences that seem to protect mankind.

"All civilized governments should unite to force and control such a quarantine at Suez, that such cases as that of the 'Crocodile,' can never again occur. Whether the same happened with the French transport ship we cannot tell, as information on

this point its still wanting. But we know that the ship came from India, where it had left at the time of a cholera outbreak there; she passed through the canal, was permitted to proceed unmolested, and came to Toulon, where a few days later the first case of cholera occurred. What I say are facts well authenticated, and the Minister as well as you, gentlemen, may draw your own conclusions from them, and they will tell you what, *ab initio*, the duty of the French Government ought to have been.

"It is no use denying—the sanitary control, as performed by the French Government, is not so strict as civilized nations have a right to demand. I hope to notice soon an improvement, and especially at at Suez; otherwise the sanitary measures of other nations are useless.

"It has long been supposed that the Asiatic Cholera could not exist so long on board a ship. The instance of the 'Crocodile' has now confirmed older cases. Let me mention to you that of the German iron steamer, 'Franklin' October 10, 1871, it left Stettin, and had October 14, the last communication with the shore at Christiana. Nevertheless, from November 13, thirty of the crew died from cholera. The last case happened November 13, four weeks, there after the 'Franklin' touched land the last time.

"In conclusion, I can only say that I am astonished that our government had not yet sent a commission to Toulon to investigate the disease. The French sent a commission to us to study the trichinæ; they were well received by us; why should we not do the same? Sporadic cases of the cholera happen, but the disease since Koch's discovery of the cholera bacillus is now so easily recognized—though without it not less—that there should be no trouble in determining the true character of the epidemic. I myself am against a cordon, as useless.

Virchow ended by declaring that he had the fullest confidence in the wisdom of the government; and then the Minister concluded the debate by insisting that the French Government had taken the strictest measures to prevent the disease from spreading. He mentioned in detail the report of the German Ambassador in Paris, in which it is said that especially disinfection, cleaning, and isolation were strictly attended to, that the troops had been transferred to another city, and that all persons

leaving Toulon were under medical control. With reference to the sanitary service in Egypt, the Minister informed the House that the German Government was endeavoring to have all civilized nations act in unison, so as to enforce the strictest quarantine upon all suspicious vessels.

The Minister in closing the debate also made mention of the fact that a German commission would depart for Toulon. We know that such has been done; also, that the French Government has admitted the disease to be genuine Asiatic cholera, and that the latter has spread considerably, though it has not yet found a victim outside France and Italy. — *Medical and Surgical Reporter.*

Society Reports.

THE CHICAGO MEDICAL SOCIETY.

Stated Meeting, September 15, 1884.

DR. W. C. EARLE read a brief paper on

Congenital Malformation of the Stomach, and presented the stomach of a new-born babe that had survived twelve days with the minutest quantity of nourishment.

Autopsy revealed that no opening existed between the stomach and duodenum.—Biliary matter was, however, contained in the feces.

The same gentleman reported the history of a rare case which consisted of a bony tumor of the female pelvis, and exhibited the pathological specimen, which weighed three pounds and a half.

Preamble and Resolutions.

DR. LISTON H. MONTGOMERY, the Secretary, presented the following preamble and resolutions, and moved their adoption:

Whereas, From present reports and indications in foreign countries, cholera and yellow fever, both pestilential diseases, prevail, and as the latter especially is always assuming a threatening attitude towards us, and is not conducive to our national prosperity, nor to public health, and should, if possible, be averted with earnest and efficient sanitary measures, and

Whereas, Cholera may make its appearance on this continent ere another twelve months elapse, and should likewise, if possible, be averted or restricted to the narrowest limits, therefore,

Resolved, That it is the sense of the Chicago Medical Society to have that depart-

ment of the Government relating to public health recognize the services of the able sanitarians constituting the National Board of Health, for the purpose of co-operating with state, municipal and other organizations of a similar kind, and that a committee consisting of five (5) or seven (7) members of this Society be appointed by the Chair to draft suitable resolutions in behalf of said National Board.

Resolved, Furthermore, that this committee present said resolutions to the Congress of the United States, memorializing that body to make a sufficient appropriation for the purpose of said Board for scientific investigation in the prevention and restriction of epidemic, preventable and pestilential diseases.

We believe that this action should be promptly taken at the coming session of our national legislature, and that a thorough sanitary organization of the nation should be recognized, and with it absolute enforcement of the best means for the protection of her citizens and the improvement of her interstate sanitary condition.

The resolutions elicited much discussion, which was participated in by many of the most influential members of the Society, each favoring the merits they possessed, and thinking they were ample and eminently proper at this time. Upon vote they were unanimously adopted.

The following committee was appointed:

Drs. O. C. DeWolf, R. E. Starkweather, L. H. Montgomery, John Bartlett, J. H. Ethridge, A. R. Jackson, and J. H. Hollister.

A resolution prevailed that the committee be authorized to present their resolutions to the Society for final consideration, and then submit them to congress.

A vote of thanks was tendered Dr. A. H. Johnson, who was present at the meeting, for his invitation to visit him, saying that if it was possible for him to render any assistance pertaining to the National Board of Health he would gladly do so. L. H. M.

DR. DANIEL R. BROWER, Prof. Mental and Nervous Diseases and Medical Jurisprudence, Woman's Medical College, and Editor *Chicago Medical Journal and Examiner*, says: "I have been using BROMIDA in my practice for several months, and find it to be a *very valuable hypnotic*. The disagreeable taste of the chloral and the bromide are quite effectually concealed, and the depressing effect of the drugs on the circulation admirably counteracted by the cannabis-indica and hyoscyamus.

Selections.

MEDICINE.

THE PATHOLOGY OF OBESITY. — Prof. Kisch, of Prague, has recently contributed to the *Deutsche Med. Zeitung* an article on the above subject, in which he considers the derangements, functional and organic, to which the corpulent are specially predisposed. The *Medical Record*, August 16, in its editorial columns thus enumerates some of these conditions:

"First, as regards the heart, an organ which is inclined early to show signs of disturbed action. The fatty heart, as distinguished from the fattily degenerated heart, is affected, according to Leyden, in three degrees of severity. In the first there is simply a thick layer of adipose about the organ; in the second, with the fatty deposit there is a softening or relaxation of the muscles, dilatation of the cavities, and enfeeblement of action. In the third form there is combined with the fatty heart an arterial sclerosis. The symptoms in the higher grades of fatty heart resemble considerably those of fatty degeneration, and need not be here enumerated. Kisch has made sphygmographic tracings in four hundred cases of fatty heart with the following result: In thirty-six per cent. of cases there was a *pulses tardus*; in thirty-two per cent. of cases the pulse varied from one of a slightly to one of a completely dicrotic character; in twenty-four per cent. of cases an increase of tension from arterial sclerosis was shown; in four per cent. of cases there was simple arrhythmia. The value of these examinations is, of course, slight of themselves. It is to be assumed, though it is not stated, that the patients had no valvular disease of the heart and no kidney lesions.

"As regards the respiratory organs, Kisch found in many cases bronchial catarrhs. Naturally such symptoms as dyspnoea, and even pseudo-angina, were frequent.

"The digestive organs of the obese are very likely to be deranged. Gastro intestinal catarrh, dyspepsia, constipation, hemorrhoids are present, and are due partly to dietetic errors, partly to the weakness of the heart and the incapacity or disinclination on the part of the patient to take sufficient exercise. An enlarged and fatty liver is of frequent occurrence, but its ex-

istence is not easy to make out by physical examination.

"Urates, uric acid, and oxalate of lime are found in the urine. It is well known also that the obese are liable to glycosuria, and Kisch found sugar in the urine of many of his patients at periodic or irregular intervals.

"Owing to the increased activity both of the sweat and the sebaceous glands, fat persons are subject to 'catching cold' and to attacks of rheumatism. Such skin diseases as boils and carbuncles are relatively frequent.

"The bodily temperature shows an inclination to mount up, and in fevers the corpulent burn actively. Their feeble resistance to fevers was first pointed out by Hippocrates. Liebermeister states that they are less amenable to antipyretic measures.

"Parallel with increase of fat is a decrease of sexual appetite and sexual power. Kisch found in several cases absolute azoospermia. Women are inclined to amenorrhea and sterility. Among two hundred and fifteen obese women Kisch found forty-nine cases of amenorrhea, one hundred and nineteen of scanty menstruation, and forty-nine of sterility.

"The blood of the obese is poor in red blood-corpuscles. Obesity is, in fact a disease of diminished oxidation. There are not only too few red corpuscles, but there is too much water and an excess of fat."

COLLECTIVE INVESTIGATION APPLIED TO PNEUMONIA. — The happy idea of applying the principle of collective investigation to the study of disease is producing results which even its most sanguine supporters must feel to be highly gratifying, and which seem likely to exert an influence on the progress of medicine not at all inferior to any of the means which have acted in this direction in the past. We have already, about twelve months since, had an opportunity of referring in terms of well-deserved praise to the first fruits of the labors of the Collective Investigation Committee, consisting of a thoughtful and well-digested and sufficiently exhaustive report on phthisis, with especial reference to the contagious nature of the affection. Recently, the same committee has issued its second comprehensive study, the subject of which is acute pneumonia. This, which

was shadowed forth in the first volume of records published last year, will be found no less interesting and instructive than its predecessor; it contains a mass of information that cannot fail to be of the utmost value to practitioners, not only as an aid in the treatment of cases of a similar nature to those recorded, but also, and perhaps more important, it will afford suggestions in other directions, of which the outcome cannot fail to be in the best interests of medical research and advance.

It may be at once stated that the committee have discharged the functions pertaining to them in the preparation of the volume in question with a care and completeness that are beyond all praise; and at the same time they have dealt with debatable points in such a manner as to give the reader every essential to the formation of opinions, without in any case forcing conclusions that are not amply justified by the observation of facts. In this respect, indeed, the report is a model of judicial exactness; and fortified as it is with copious bibliographical references, it is unquestionably the ablest and most important work on the subject of pneumonia accessible to the English student of medicine, of whatever grade.

The report deals with a total number of 1,065 cases, of which 192 terminated fatally, thus yielding an average mortality of 18 per cent. The proportion of males and females in 1,034 cases where the sex is stated, is 704 with 120 deaths, or 14.2 per cent.; females 356, with 71 deaths, or 19.9 per cent. The maximum mortality occurred in persons below 70 years of age, among patients between 50 and 55—in whom it reached 39.5 per cent.—and the minimum death-rate occurred between the ages of 5 and 10 years, viz., 5.9 per cent. These figures, as the report observes, agree with the results of Dr. Longstaff's researches.

A very important point in connection with the etiology of pneumonia, and one as well that does not receive the attention it deserves in general practice, is that of the influence of insanitary surroundings on the disease. The facts now collected enable us to judge to how great an extent the affection may be dependent on defective drainage and sewer-gas poisoning, and more than one very instructive instance of an outbreak due to one or other of these causes is contained in the list of abstracts

included in the volume. It is, however, interesting to note that the committee reports "that the affection, when of this origin, is not of exceptional severity or high mortality." Another point, also, in connection with etiology is brought out in a manner to emphasize the general conclusion already reached by those who have had any very considerable experience with pneumonia cases, and that is, the influence exerted over the disease by intemperate habits. Hospital cases particularly, occurring as they most often do in persons addicted to the abuse of alcohol, afford instances in proof of the committee's conclusion, that the high mortality observed among the intemperate subjects of pneumonia is a real effect; but in addition to this, the report justifies the further statement that alcoholic excess is not only an important factor in determining the issue of pneumonia, but is often of itself the actual exciting cause of the affection, and that pneumonia owning this origin is at all ages the most fatal known form of the disease.

Probably the question which will excite the greatest amount of interest in connection with the inquiry undertaken by the committee respecting pneumonia is that of its capability of being transmitted from individual to individual. Under this head several observations are made and a number of cases in point are cited, as well as the experiences gained during the progress of epidemics both at home and abroad. Some of these, taken as abstract testimony of contagiousness, appear to offer convincing proof of such an attribute; but the difficulty of eliminating, in every instance, all possible sources of an exciting cause other than direct transmission, renders the formation of an absolute opinion a matter of more than usual uncertainty. It is probable that each observer will determine the issue according to the experience he has himself acquired, and that he will welcome the reserve with which the investigation committee treat the question, their conclusion being—"That pneumonia is sometimes conveyed from person to person must, we think, be admitted, notwithstanding that some of the examples quoted to that effect are capable of other explanation. Insanitary conditions—in which, probably, ill ventilation as well as defective drainage ought to be included—appear to favor such conveyance, and it

would seem necessary that the intercourse should be intimate and prolonged, like that of patient and nurse, or of bed-fellows. In such circumstances, infectious pneumonia must, we think, be admitted as a reality, a rare characteristic of the disease, of which we are not, at present, in a position to offer an explanation. Yet, while admitting as much, it must be affirmed, at the same time, that pneumonia, as we commonly see it, has no infectious character."

We cannot now give space to the subject of treatment, which forms an important part of the report; but while deferring this for the present we may quote the following from the "general conclusions" of the committee respecting the forms of disease recognized in their report:

1. Pneumonia is a local infection, seen especially in early life; its onset is sudden, and due to some notable chill or exposure of the body; it has all the characters of acute inflammation, with a marked tendency to spontaneous recovery, and is largely dependent on certain meteorological conditions which are productive also of other forms of lung inflammation.

2. Secondary pneumonia, such as arises in the course of many acute and specific infections.

3. Pneumonia due to causes not directly injurious to the lung, but operating through the blood or nervous system.—*Medical Press.*

AN INTERESTING CASE OF POISONING FROM VERATRUM VIRIDE.—William M., white, æt. 38 years, admitted to the Philadelphia Hospital April 27, 1883. Symptoms of commencing typhoid fever were present, and the patient ran the usual course of the disease, convalescence setting in on the twenty-second day. On the evening of the second day of his convalescence, or twenty-three days after his admission, the poison was administered through a mistake of one of the attendants of the ward.

It was nearly ten minutes after the ingestion of a teaspoonful of the officinal tincture of veratrum viride that the patient was first seen by the writer, and up to that time the drug had failed to produce any nausea or vomiting, as is usually the case when overdoses of this poison have been taken, this prompt emesis which it usually produces being the probable explanation of its

lethal inactivity, for, in the act of vomiting, the medicine is ejected with the first matter from the stomach.

Very great depression of the powers of life was observed, the action of the heart exceedingly weak and feeble, the pulse almost indistinguishable, the surface of the body cold and covered with a clammy sweat, and the temperature reduced below normal about one degree. The globes of the eyes were prominent, lending a peculiar staring appearance to his countenance, and the pupils decidedly contracted. The patient experienced some dyspnœa, and the respirations were shallow and labored.

He was restless, and the countenance bore an anxious expression; the delirium, which had almost subsided before the administration of the drug, returned with renewed vigor. It was of a low muttering character, and continued so for some twelve hours after the administration of the poison, when it was replaced by a semi-stupor, which abated but little up to the time of his death. No numbness or tingling was complained of, and tactile impressions, though not entirely absent, were very faint.

Measures were immediately taken to remove from the stomach any portion of the poison which it might contain. Mustard-water, followed by a well-diluted solution of about thirty grains of the sulphate of copper, was administered, and in a short time vomiting was produced. The stomach pump was then resorted to, and the stomach thoroughly washed.

Under the use of artificial heat, brandy both by the stomach and rectum, and ammonia, in a few hours the respiration became less embarrassing and shallow, the pulse became fuller and stronger, the anxious expression of the countenance lessened, and a condition of general physical quiescence ensued.

The action of the heart, however, never entirely recovered its strength, and the number of pulsations per minute reached fifty-two as the maximum some six hours prior to his death.

On post-mortem examination, the thoracic viscera were found in a normal condition, except a slight increase in the pericardial fluid.

The stomach was almost empty, and its mucous membrane showed unmistakable evidence of acute gastritis, the inflammation, however, not being spread over its

entire surface, but appearing in spots, the congestion gradually lessening into the surrounding healthy tissue.

The intestines exhibited the usual ulcerations of Peyer's patches, but no point of perforation could be distinguished.

The patient undoubtedly recovered from the poisonous effect of the drug, but the depression of the vital powers which its ingestion caused, when superadded to the already prostrated condition in which the fever had left him, undoubtedly produced the fatal termination. — by LLOYD N. HORWITZ, M.D.,—*Medical Times*.

THE NATURAL PRODUCTION OF MALARIA, AND THE MEANS OF MAKING MALARIOUS COUNTRIES MORE HEALTHY.—An abstract of an address delivered before the International Medical Congress, August, 1884, by Prof. Tommasi Crudeli, Rome.

Dr. Tommasi-Crudeli asked the Congress, and especially the French members, to excuse his using the French language in his address. As he was not permitted, by the rules of the Congress, to use his own language, he had chosen that in which he thought he would be most likely to make himself understood. He also desired to be excused in the use of the word malaria instead of a more strictly scientific term. He could not agree with those who put forth the theory that malaria was due to telluric influences, having their origin in the soil. This theory was altogether unfounded, as was apparent from many circumstances. Yet, on the other hand, the condition of the soil had a great influence on the growth and the spread of the epidemic, when this was once started. The theory that the origin of malaria was to be found in a ferment that was independent of the soil, was not exactly a new one. For a long time, however, the nature of this ferment was totally unknown, and there had been put forward several theories about this question. Some were of opinion that the disease originated from a living contagium that required specific conditions to develop itself. Others had been looking for this ferment in different kinds of aquatic plants, and several species of algæ had been mentioned as the bearers of the disease. According to his (Dr. Tommasi-Crudeli's) idea, the disease was due to a living ferment, represented by parasitic organisms, the qualities of which he described.

This ferment required certain conditions to develop itself, and chiefly—1, a temperature of not less than 20° Celsius; 2, a soil which possessed conditions favorable for the reception of this ferment; and 3, the action of the oxygen on the atmosphere on this soil. As regarded the temperature, it was easy to understand how the state of health in malaria-stricken countries was improved during the winter season, and how an epidemic could be brought about in a very short time if the temperature were suddenly to rise to a high number of degrees. A cooling of the atmosphere, of course, could not be effected by artificial means; but the condition of the soil could be improved by going the right way to work. As means to effect this end, he instanced the drainage of the soil with pipes and canalization; a combined method, consisting in draining the undersoil and carrying off the water, to prevent its stagnating in the upper stratum of the ground. Already, in the last century, Laccisi had put forward the theory that the occurrence of malaria might be prevented by means of plantation, and this theory was carried into practical effect. He (Dr. Tommasi-Crudeli) criticized the different methods of plantation that had from time to time been advocated, especially that of planting the eucalyptus. In these, he declared, he had no faith; and he cited several instances from his experience in the Roman Campagna where these trees had been used, and where they had for a long period given complete satisfaction, until suddenly in 1882, a severe attack of malaria occurred; whilst the other regions, where malaria used to manifest itself, were free from the disease.

Speaking generally, it could be said that all the methods which had been employed to improve the condition of the soil had brought only a temporary, not an absolute bettering of that condition. Yet this precaution ought not, he thought, to be omitted. The problem was to make the soil sterile in regard to the malaria ferment, without at the same time depriving it of its capacity of bearing useful products. A thorough cultivation of the soil from all points of view was to be recommended. As one of the most important measures to be taken in the struggle against malaria, he laid particular stress upon the adoption of the principle of strengthening the human organism as much as possible, so as to supply it with an increased power of resistance

to the action of the ferment. Several agents have been used with this end in view, as, for instance, quinine and different preparations from the eucalyptus, but none had given full satisfaction. He had himself used arsenic as a preventive, and as it had turned out quite a success, he had generally extended the use of it. He had first used arsenic in the year 1882, and had last year and this year improved upon the method. The treatment with arsenic ought to be commenced before the season for the affection has begun, and it was necessary to keep up the medicine and give it in increased doses. In Bovino, near Naples, he had experimented in this way with sixty-seven persons, and the experiment was attended with quite satisfactory results. It was, of course, necessary to use a great deal of precaution in employing arsenic, so as not to make patients arsenic-eaters. At the same time, the observations in regard to this agent were far from being fully ventilated. One of the main difficulties experienced was to make people take to the arsenic.

In conclusion, Professor Tommasi-Crucci laid stress upon the favorable influence of airy and elevated sleeping places, asking the Congress to bear in mind how in ancient Greece the people used to sleep on the roofs of the houses; how in the malarial districts of Italy the people were wont to select sleeping places on the tops of the old sepulchral monuments, and how the engineers working on the Panama canal had their hammocks swung up between tall bamboo masts. Malaria, he said, was, in those parts of the world where it was a common malady, so trying to the people that it would indeed be a very great achievement and an estimable blessing if a means could be found that would give entire satisfaction, and that would certainly prevent or overcome this dreadful disease.
—*British Med Jour.*

ABSTRACT OF AN ADDRESS ON METAPLASIA, delivered before the International Medical Congress, August, 1884, by Rudolph Virchow, M.D.—Professor Virchow said that in the first half of this century the theories about the different processes of life were chiefly of a chemical nature. Life was supposed to be bound to certain matter, which originally was found in a fluid condition in the body, especially in the blood, and this by assuming a solid form, came to consti-

tute the different parts of the body. Even Schwann, in his famous theory of cells, assumed that the cells were formed by a process of crystallization. The doctrine as to the matters from which the tissues were formed came originally from England, from Hewson and John Hunter, who preached the doctrine of plastic lymph. The theories of the Englishmen were made use of in Rokitsansky's humoral pathology. But it is not likely that they would have obtained acceptance, if the notion had not been general in physiology of an intercellular humor in the blood, to which Schulze gave the name plasma, and which was looked upon as the principal factor in the processes of generation and nourishment, which then came to be considered as identical. It was thence thought that the art of healing consisted chiefly in regulating the nourishment, and at this it aimed. It was thirty years since he himself had made the first step towards a true cellular pathology, when he gave forth the sentence "omnis cellula e cellula," by which the necessity for finding a plastema material for the origin of the cell was done away with. The process of nourishment in the developed cell was not identical with that by which the cell was generated, and there was a manifest difference between nutritive or trophic processes on the one side, and formative or plastic processes on the other. He explained how the task of nourishment was to keep the cell alive, and how the formative process consisted in forming other cells from one pre-existing cell. There was, therefore, a contrast between nutritive or trophical processes and formative or plastic processes. Even if the same matter were used at one time for nourishment, and at another time for forming new cells, it was an organic activity which occurred within, not outside the cells. He proceeded to define automatic nourishment, and that change of matter he called "transit-change", and which consisted in the reception of matter by the several parts of the body, and their giving it up again without using it for nourishment. This term could not be used for the cellular nourishment, with which it had no connection. The term plastic he reserved for the formation of new cells. Having thus distinguished nutrition and generation from each other, he proceeded to say that the definition of "growth" was of a more doubtful nature, comprising two different series of processes. By hypertrophy they understood

the increase in size by taking in new matter; and by hyperplasia, a new formation of cells. Having shown a nerve to be growing nutrition, and a blood-vessel formation, he went on to speak of the production of new tissue forms, of processes more allied to the plastic than to the nutritive, and the result of which was a change of the different parts—that is, the formation of new connective tissue, or metaplasia. The distinctive mark of this process was that the cells kept on living, while the character of the tissue was changed. This metaplasia was the foundation of many important pathological processes, without being itself of a pathological, but of a purely physiological nature. It was one of the hypotheses underlying Darwinism. What was in the doctrine of embryogeny called “differentiation,” and what in the theory of evolution is called “transformation,” corresponded in the main with metaplasia. There had not been sufficient distinction made between those processes, which tended to form new organisms, and those which were destined to form new tissues. For instance, the formation of bone in no case proceeded directly from the normal cells of the embryo. A transition tissue was first formed, and the bones were formed from this by metaplasia. Proceeding to draw a distinction between calcification and ossification, he said that the question of the nature of the tissue converted into bone, whether cartilage or membrane, was not yet fully answered. Yet all agreed that there were to be found before the formation of bone began, soft parts, which afterwards constituted parts of bone. Between calcification and ossification it is difficult to maintain a clear distinction. A calcified cartilage is not osseous tissue. It was very doubtful if by transformation alone cartilage could be turned into bone. The difficulty about understanding this question lay in its insufficient discussion. The bone had been examined without regard to how it appeared in life, and the questions of ossification and osteogenesis had been treated in common.

Coming to consider the formation of the marrow of the bone, he said it was first supposed to be a fluid in the cavity of the bone. There were now distinguished three different conditions in which the marrow could be seen—the red, the yellow and the gelatinous. It was a tissue of changing forms, and a splendid example of metaplasia. It was formed after a metaplastic fashion, as

the osseous tissue lost its chalky salts, was turned into cartilage cells, and cavities were formed in the bone for marrow. When this takes place to an unhealthy degree, the process was called osteoporosis; and if to a yet higher degree, osteomalacia. Osseous tissue is to a great extent subject to metaplastic transformation. He had studied the formation of spongy bone, and there was only a question as to the formation of marrow.

There is a limit to the metaplasia of leucocytes. Cohnheim held that all tumors began from the remains of embryonic cells, but Virchow holds that some tumors take their origin from much later changes. A difference of opinion existed as to whether unlike tissues could be originated by metaplasia, whether, for instance, fibrous tissue in the liver could originate from epithelium. Virchow held that tumors of epithelial structure could originate, by metaplasia, from fibrous tissue. Without pretending to solve the problem as to the possibility of metaplasia between heterogeneous tissues, he would point out that a satisfactory decision was hardly yet possible.—*British Med. Journal*.

POLARIZATION OF THE HUMAN BODY AND OF ELECTRODES.—Dr. Romain Vigouroux (*Le Progres Med*, 1884, No. 26) says that Dr. Watteville, in a recent note, has drawn attention to the fact that if, after a current of electricity has been passed through the human body for some time, it be reversed, it shows an increase by the galvanometer. This increase, he says, must be due either to a diminution of resistance in the circuit or to an additional electromotive force in the body and electrodes. He dismisses the latter supposition as unfounded, because the body and electrodes, when put in connection with a galvanometer, give rise to no current; while it cannot be due to diminished resistance, as after a short time the needle returns to its original position. Dr. Vigouroux says the same observation has been made by others, including Erb, but no explanation has been afforded. He offers the following simple one. He disputes the assertion that the body and electrodes generate no current; for if, after passing a current through the body, the action of the pile be suppressed without interrupting the current, the galvanometer still indicates the passage of a feeble current. Then, if the current be opened, the needles pass

to zero ; so that there is produced during the passage of the current an inverse electromotive force, strong enough to give, in spite of the resistance of the body, a notable deviation of 4 to 10 ten-thousandths of an ampere. The seat of this current is in both body and electrodes, but chiefly in the latter, as may be shown by putting the electrodes in contact. This is true of carbon electrodes covered with chamois leather and wetted with water, also of sponge electrodes, and of metal ones covered with linen. The electromotive force due to polarization of the skin is much more difficult to determine. In fact, he failed to obtain decisive evidence of its existence with very delicate apparatus, and he thinks it may be left out of account. The phenomenon is, therefore, accounted for thus: The polarization of the electrodes goes on increasing to a certain extent during the passage of a current, and the inverse electromotive force which results from it has the same effect as an increase in resistance. When the current is reversed this accessory resistance disappears, and the current of polarization is added to the principal current. We can understand, therefore, why the reversed current shows a decided augmentation, because of the absence of the diminution due to the inverse current, and of the addition of this inverse current to the primary current reversed. After a time a new inverse current is determined, which brings about anew the same series of events.—*London Med. Record.*

PURPURA.—The pathogenesis of purpura is surrounded by great obscurity. Few are the cases recorded in which the vascular lesions have been ascertained. Leloir gives two cases in detail, the first being a good example of vascular purpura, the lesions of the cutaneous vessels found on post mortem examination, being an enormous dilatation of the vessels, and pronounced alteration of the walls. In contrast with this case, in which the vascular origin appeared undeniable, he relates a second, in which no vascular lesion could be found, although there were numerous deep and extensive cutaneous hemorrhages. Here the cause was evidently an alteration of the blood. But in the first case, with appreciable lesions of the capillary vessels, the hemorrhages were small and limited; while in the second, with vessels apparently intact, the hemorrhages were extensive and situated in the middle

region of the dermis. Diapedesis does not seem sufficient to account for these pronounced hemorrhages. In some part there must be vascular rupture. One may suppose with Hayem, that in certain diseases the blood-plasma acquires the property of provoking concretions by precipitation, inducing multiple capillary embolisms, and thus causing purpura hemorrhagica from hemorrhagic infarcts. Certain forms of purpura of the lower extremities in cachectic subjects may be explained by stagnation of blood (often with œdema), and alteration of the blood; intravascular fibrinous coagulation, formation of embolic clots, hemorrhagic infarcts and cutaneous hemorrhage. It is probable that many cases of purpura from alteration of the blood, perhaps even sometimes purpura from cold, rheumatism, etc., arise from blood dyscrasia leading to intravascular coagulation, clots by precipitation, or capillary embolisms. As to the nature of the alterations of the blood, many authors speak of the too great fluidity of the blood; but the quantity of the fibrine, far from being diminished, is frequently increased in purpura. Leloir groups the pathogenic causes of purpura thus:

1. Purpura from modification of the vessels.—*a.* From perturbation of the capillary vessels, whatever its origin, leading to active or passive hyperemia, producing hemorrhage by diapedesis or capillary rupture.

- b.* Purpura telangiectasique of Cornil and Ranvier.

- c.* Purpura from primary alteration of the vascular walls, and consecutive rupture of these walls.

- 2 Purpura from modifications of the blood.—*a.* Too great fluidity of the blood (?) (diapedesis.)

- b.* From vascular obstructions determined by certain elements contained in the blood leading to the formation of thrombi and emboli.

3. Purpura nervosa.—In practice many cases will not fall completely under either group. Often the origin seems complex. Alterations in the blood, troubles of the circulation, vascular lesions, disturbances of innervation, all causes of cutaneous hemorrhage, may coexist in the same subject. In all probability dyscrasic purpura may be in certain cases the origin of secondary vascular lesions, of secondary endarteritis. It is probable that alteration of the blood often modifies the action of the vaso-motor

nervous apparatus, central or peripheral. In studying a case of purpura it must not be forgotten that its pathogenesis may be complex. The relative importance of the different causes must be sought, and an attempt made to determine the relations between the primary or the predisposing and the occasional or secondary causes.—*Lond. Med. Record.*

TUBERCLE BACILLI IN LOCAL SCROFULOUS AFFECTIONS.—Kanzler has examined the tissues, caseous material and discharges from a number of local scrofulous affections, for tubercle-bacilli. He used as a staining fluid a solution of fuchsin in aniline water, in which the dried and heated preparations were kept 24 hours. They were decolorized in dilute nitric acid (1 in 3), stained again with methyl blue, washed in distilled water and alcohol, and mounted in Canada balsam diluted with turpentine. The following is a summary of his results:

1. Out of four cases of osteomyelitis and osteosynovitis, in which the fungus masses from the excised joints were examined, bacilli were present in all the preparations, 40 in number.

2. Of 31 cases in which the secretions of local scrofulous affections were examined, (in all 213 preparations), bacilli were found in 14 instances only. They were as follows:

Excised lymph glands.—7 cases, 2 positive, 5 negative.

Joint and bone diseases.—13 cases, 8 positive, 5 negative.

Skin diseases.—7 cases, 4 positive, 3 negative.

Purulent catarrh of the middle ear.—2 negative cases.

The bacilli were much less numerous than in phthisical sputa.

None of these cases had definite evidence of pulmonary phthisis. He thinks that tuberculosis and scrofulosis must be regarded as two different things, for the following reasons. In only a small number of local scrofulous diseases were bacilli present, and in a large series of cases they never have been shown to exist at all; for instance, as in simply hyperplastic scrofulous glands, in scrofulous eczema, impetigo, conjunctivitis, middle ear catarrh, etc. In no cases of congenital scrofula have bacilli been seen; for example, in young infants with abnormally irritable mucus membranes, and tendency to catarrhal affections. Inoculation experiments with tubercle have always pro-

duced tuberculosis, and never anything like general scrofulosis. Though tubercle easily develops upon a scrofulous basis, it may also develop under other conditions.

It may also be open to dispute whether, in a given local affection, the cause was the introduction of tubercle bacilli, or whether it was primarily scrofulous. Further investigations are needed to clear up the complex relationships of the two diseases.

For diagnostic purposes it is plain that in few cases would such investigations as those related above be worth any one's while, and the results show much care is needed to find bacilli even when present, so that the value of negative results is very doubtful. In some cases of joint-disease it might be proper to make an exploratory incision under proper antiseptic precautions, and examine the contents under the microscope.—*London Med. Record.*

In its application to carious teeth creosote is often inconvenient in consequence of its fluidity producing ill effects upon the mucous membrane of the mouth. This may be obviated by giving to it a gelatinous solidity by adding ten parts of collodion to fifteen of creosote. This, besides being more manageable than creosote, also closes up the orifice in the tooth, preventing the accession of the air to the dental nerve.—*Columbus Medical Journal.*

SURGERY.

THE MECHANISM OF THE DOWNWARD DISPLACEMENT OF THE CLAVICLE FOLLOWING FRACTURE OF ITS SHAFT.—Chas. W. Cathcart, M.B., F.R.C.S., read the following in the Section of Surgery at the annual meeting of the British Medical Association, Belfast, 1884:

So far as I can learn, the generally accepted explanation of the falling of the shoulder after fracture of the shaft of the clavicle is that, while the clavicle is intact, it bears the weight of the upper limb by being supported at its inner end against the first rib, and by the ligaments of the sterno-clavicular joint holding it in position. As soon, then, as the shaft of the bone is broken, the outer or supporting end, being no longer in continuity with the inner or supported end, falls, being drawn downwards partly by the weight of the upper limb, and partly by muscular action, as far as the surrounding soft parts will

allow. I will not detain you at the present time by quoting from the various authorities to show that this is the generally accepted view; but I may say that "the weight of the arm" is the usual explanation, without further details being entered into.

What I wish to draw attention to in this paper is, (1) that the weight of the upper limb is not normally supported by a strain on the shaft of the clavicle, but that, as pointed out some years ago independently by Prof. Cleland and by the late Dr. Duchenne, the shoulder is really suspended in position by the action of the trapezius muscle; (2) that the action of the trapezius in this case is not that of direct traction, but, to a certain extent, of indirect, in virtue of the clavicle's acting as a lever with its fulcrum at the sterno-clavicular joint. This is the mechanism on which, I believe, depends the proper understanding of the falling of the shoulder after fracture of the clavicle, and it is one to which, I believe, attention has not yet been drawn.

As to the first point, I cannot do better than quote to you the exact words of the authors to whom I referred. M. Duchenne says, speaking of the trapezius as a whole: "When muscular wasting attacks both the elevating and the adducting parts of the trapezius, the signs of paralysis of these two parts are conjoined. The shoulder seems ready to fall from the trunk; and the weight of the upper limb often causes painful twitching at the points corresponding to the attachments of the trapezius, so that the patient is obliged to lie down in order to relieve himself from the weight of his shoulders." (Selections from the Works of Duchenne, New Sydenham Society, 1883, p. 305.)

Again, diagnosing paralysis of that part of the trapezius which specially concerns us just now, he says: "In palsy of the upper two thirds of the trapezius, whether it be or be not complicated by palsy of the serratus, the tip of the shoulder is always lowered." (P. 315.) Elsewhere, also, he refers to this action of the trapezius, but always to the same effect.

Prof. Cleland, in the *Journal of Anatomy and Physiology* for May, 1871, gives the details of a case which bears out the same action of the trapezius in supporting the shoulder. The patient was a young man who suffered much from lupus. The previous summer, according to the account, he was treated for a large ulceration of the

neck, between the borders of the sterno-mastoid and trapezius muscles, precisely opposite the position of the spinal accessory nerve. Professor Cleland continues. "As the ulcer was simply dressed with permanganate of potash, it was left to the care of a wardman, who certainly passed the turns of his bandage over the shoulder of the affected side, and under the other shoulder, but that is not sufficient to account for the deformity found to exist when the patient was able to sit up. When he sits with the vertebral column and sternum perfectly straight, he has yet the appearance of being twisted and bent forward, which is entirely due to the loss of action of the trapezius muscle. The clavicle has fallen downward and forward, the shoulder is at a much lower level than the other, and the inner border of the scapula is removed outwards. The position of the whole shoulder girdle on the right side is one which can not be imitated on the left, and we have thus a beautiful illustration that the human shoulder when at rest is not merely supported by the sterno-clavicular ligaments, but is suspended from the neck by the trapezius muscle."

The patient died not long afterward of other causes, and the diagnosis of paralysis of the trapezius muscle was confirmed by finding the spinal accessory nerve firmly implicated in the cicatrix of the ulcer.

It would seem hardly possible to have stronger evidence than that afforded by M. Duchenne and Professor Cleland on the action of the trapezius muscle. I may be allowed, however, to add that this is confirmed by remembering how much the condition of the shoulders is affected by the permanent or temporary condition of the muscular system. In advanced phthisis, for instance, or any of the weakened conditions of the body, the drooping of the shoulders is a marked symptom, while the same condition is found to result when a person is fatigued from overexhaustion.

If we may assume now that the trapezius is the active agent in keeping the shoulder in position, the mechanism by which it does so will be best understood when we consider what happens when the clavicle is broken at its middle, or at the middle or at the junction of the inner and middle thirds. Taking the latter site as a common one, it will be seen that, in that case, the whole of the insertion of the trapezius will be left attached to the outer fragment. If the

trapezius chiefly held it in position before the fracture took place, why does it not do so after the fracture? In other words, what change in the mechanism has taken place which, while it leaves the attachment of the muscle as before, yet has the effect of preventing the muscle from acting as before? The answer which presents itself at once is, that the trapezius formerly acting through the agency of the clavicle as a lever, which, by giving it additional power, enables it to support the weight of the arm; while, unaided, it was not able to do this. The lever intact, the weight is easily upheld; the lever broken, the weight is too much for the muscle.

But not only is the weight of the arm too much for the trapezius when the clavicle is broken, but the line of traction is one which is injurious to the disabled limb. The outer fragment is now dragged upward and inwards, and pressed against the inner one, so as to cause pain. Further, any attempt to move the arm increases this pain, because, as I have previously shown, the co-ordination of the trapezius is involved in movement of the arm as soon as it leaves the side.

We thus see that this view as to the action of the trapezius in supporting the shoulder not only enables us to see exactly how it is that the shoulder falls after fracture of the clavicle, but helps us more clearly to understand the reason for other symptoms which accompany this injury.

In conclusion, I may suggest, though I have not yet had time to enter into the subject, that the curves of the human clavicle, and the varieties in the shape, size, and form, and even presence, in various classes of vertebrates, may depend on this view of its relationship to the trapezius muscle in its action on the upper limb.—*British Medical Journal*.

GANGLIAR DISEASE OF JOINTS.—Read in the Section of Surgery of the British Medical Association, Belfast, 1884, by Arthur T. Norton, F.R.C.S., Eng., and published in the *British Medical Journal*:

The subject which I have chosen for my paper is what I have termed "Gangliar Disease of Joints." It is a particular form of destructive disease of joints, totally different from scrofulous disease and from rheumatic disease in its pathology, though resembling either in external appearance, and often in its symptoms. It is associated

with the development of ganglions in the neighboring tendons, and such ganglions may or may not be connected with the joint.

I do not know that the name I have given exactly pleases me, but I am not able to suggest one more descriptive of the disease. I will relate four cases.

Case 1. Mary Ann B., aged 40, fancied that she had sprained her wrist, five years ago, but did not recollect the occasion. For four years there had been some swelling and pain, but she had not been prevented from continuing her employment as a domestic servant. For the last three months, before admission to the hospital, she had not been able to use the hand. On admission to the hospital there was a so-called ganglion, about four inches in length, extending upwards from the wrist-joint in the centre of the fore-arm; the ligaments of the wrist-joint were sufficiently loose to allow lateral gliding movement; the annular ligament was pushed forward by ganglionic enlargement, and there was evidently fluid within the wrist-joint. The hand hung down, and there was no power to raise it. The hand was quite useless, and the disease was increasing, and had continued so to do for more than five years, regardless of treatment. From a past experience of similar cases, I concluded that the only treatment was amputation, which I accordingly performed, just about the middle of the arm, in order to escape the ganglion.

On examination of the hand, after removal, I found the ganglion already mentioned filled with the usual jelly-like material, which, on pressure, separated into plates or melon-seed shapes. This ganglion extended into the wrist-joint. The wrist-joint contained a small quantity of fluid; the synovial membrane was villous; the ligaments were distended, and allowed lateral gliding movement of the joint; and all the bones of the carpus were rarefied or softened, so that a pin or a knife could be easily pushed through their substance; though there was no caries, the articular cartilages were thinned.

Case 2. There is at the present time in St. Mary's Hospital a child two years of age. For the past five months the foot has been swollen. I found it to be gangliar disease of the tarsal joints. There is a ganglion above the extensor tendons, which apparently communicates with the

tarsal joint; all the joints are dilated, and the fluid enlargement extends through to the sole. There is absolutely no pain, no elevation of temperature.

Case 3. A woman attended under me at St. Mary's Hospital with ganglions on the dorsum of the hand not connected with the wrist-joint, a ganglion extending upwards upon the back of the arm which was connected with the wrist-joint, and a fluid protrusion from the carpal joints beneath the anterior annular ligament. There was no pain; but there was no strength, as she described it, to use the hand from the wrist-joint. Some of these ganglia I evacuated by valvular incisions, without any harm resulting. She remained for more than a year without any material change, but about that time very active caries of most of the carpal bones commenced, and the limb was on that account amputated.

Case 4 was under the care of a friend of mine. This woman had a large ganglion about the middle of the front of the forearm, and a second on the hand; the wrist-joint was somewhat swollen, and allowed gliding movement; no elevation of temperature. I at once concluded that no improvement would ever take place, but that ultimately, though at an indefinite period, ulcerative destruction would take place; and I advised immediate amputation. My friend, contrary to my advice, opened the ganglion in the forearm, and took out a quantity of loose melon-seed-like bodies. Some months afterwards, the wrist became more painful, and about a year afterwards amputation had to be performed.

These few cases which I have selected are sufficient to illustrate the course of the disease; but I will just refer to one other, namely, a ganglion associated with the tendon of the hamstring, which was opened; some months afterwards, disease of the knee-joint followed, for which the thigh was amputated.

From the foregoing cases, it may be gathered that the following are the chief characteristics of this disease:

1. It is a disease which seems to occur almost invariably in elderly persons, or at any rate from thirty-five years upwards, though it does occur from time to time in children.

2. It is always a truly destructive disease, and for a certainty terminates in ulceration of the bones, preferably the small bones in the cases of the wrist and

tarsus; the bones being rarefied and softened, and often in parts absorbed, according to the length of time during which the disease has existed before the commencement of caries.

3. It is a disease which, I am inclined to believe, never allows improvement, though it may remain dormant for an indefinite period.

4. The synovial membrane is villous or granular, but never develops a mass of granulation-tissue, such as usually occurs in the chronic destructive arthritis of so-called strumous children, and which has been called spongy synovial membrane.

5. It is a disease of necessity associated with the formation of ganglions, either connected with the joint, or at a distance from the joint, and then not communicating.

6. It is a chronic disease, extending often over ten to fifteen years, or perhaps more.

7. It is not painful to the touch, is not accompanied by much pain, though there is often aching, and the patient then refuses to use the limb; and, after a time, the ligaments give way, and the hand (if wrist-joint) hangs, and cannot be lifted. When ulceration takes place with suppuration, then, of course, pain comes on, and the temperature rises.

8. When ulceration commences, it progresses very rapidly, all the bones being affected, and some completely disappearing.

9. It appears to arise spontaneously, and not to result from injury.

Diagnosis.—It may be diagnosed from either common ulceration of the cartilages, or from rheumatic disease, essentially by the presence of ganglions; in spongy synovial membrane, which is often recoverable by rest and appropriate treatment, the swelling and protrusion of the joint give a different sense to the touch, being fluid and not solid. In diagnosing from rheumatism, the ganglions must not be mistaken for the enlarged bursæ which occur in rheumatic cases.

Treatment.—Treatment is not satisfactory; it is a progressive disease. The ganglions must never be opened; they may be incised subcutaneously, or the fluid aspirated, and in like manner the fluid from the joint may be aspirated, the limb fixed upon a splint, and lotion of tincture of iodine (half a drachm of tincture of

iodine, two drachms of glycerine, and one ounce of water) kept constantly applied. When the hand hangs, or the joint glides, there is no other course but amputation.

SURGICAL NURSING. By John H. Packard, M. D., Surgeon to the Pennsylvania Hospital. — Let me say something of the requisites of a surgical nurse, and for convenience I shall speak as of women only.

A nurse should have no striking oddity of personal appearance, such as extreme tallness or shortness; the latter, indeed, would hinder her in many of her duties. She should be of average strength, healthy, and of good sight and hearing. She should have good common sense, a fair education, and a competent knowledge of household affairs. Her manner should be quiet and self-possessed; a low, soft, but distinct voice is especially desirable.

A woman undertaking to learn the duties of a surgical nurse should be still young. The age at which pupils are taken into the different training schools varies considerably, and the only general rule that can be laid down is that there should be maturity enough to give steadiness of purpose and a reliable character, while the habits of mind and body should still be capable of being moulded. Once trained, a nurse may retain her usefulness until long after she has passed middle life.

Any unpleasant habits, such as yawning, sighing, stretching, humming, or clearing the throat, are objectionable in those attending the sick; and so is awkwardness of any kind, such as a heavy tread, carelessness in handling things, etc.

A nurse, like a doctor, should be a good sleeper, but should wake readily, and be at once alert. Snoring annoys patients very much, and I have known nurses dismissed for this cause. Sometimes it is unavoidable that the nurse should sleep in the same room with the patient, on a cot or reclining chair.

Cleanliness of person is absolutely necessary. By this I mean not only outside neatness, but cleanliness throughout, such as can only be obtained by frequent washing, and daily change of clothing. Of course there are occasions when the exigencies are such as to demand constant care, and for days and nights together the nurse must be on duty. Under such circumstances a second nurse should be procured, and the two relieve one another by turns. The nurse

should change her clothing every day, one suit being aired while the other is worn.

The hands should be kept clean, antiseptics being used in washing, after the handling of soiled dressings, instruments, clothing, etc. The use of the nail-brush is imperative.

Neatness is desirable. It is not the same as cleanliness, though often mistaken for it, and the two are apt to go together. The dress should be sober and modest, not in any way notable, or calculated to impede the wearer in her duty. A uniform dress, except in some hospitals is of no benefit. White aprons and close fitting white sleeves are very suitable.

The hair should be worn plain, and jewelry avoided as out of place upon one attending the sick.

Creaking boots, clattering heels and flapping slippers are objectionable, and often annoys the sick very much. On the other hand, there are some who are worried by the nurse going about noiselessly. They are startled by suddenly finding some one near them.

Noises, expected or unexpected are disagreeable to the sick. The mere fact of waiting to hear a door shut or a clock strike, knowing that it must come, increases his nervousness. The flapping of a window blind soon becomes intolerable.

Order in the arrangement of the sick-room is a great element of comfort and efficiency. The medicines, cups, spoons, and other articles used about the sick should be kept in proper place, so as to be found at once when wanted; and when used, each one should be cleansed and replaced where it belongs.

The admission of visitors into the sick-room is a point about which the nurse should always receive directions from the surgeon, and rigidly obey his orders. Damage has often resulted from negligence in this respect. Persons sometimes force their way in, and the nurse may be obliged either to yield or make a disturbance, which might even be worse. In such cases she should enter a mild but firm protest, and report the matter to the surgeon at his next visit.

The moral qualities of a surgical nurse are of the utmost importance. She should have calmness and self-possession, respect for the rights of others, for herself and her office.

Some nurses, by way of entertaining their

patient, talk endlessly of their own affairs. Some give details of other cases like the one in hand. Some spin out scandals; or never tire of eulogizing certain doctors and decrying others. A quiet, cheerful, ready demeanor, neither reserved and morose nor frivolous and loquacious, inspires confidence and adds greatly to the comfort of the patient.

I now draw a picture of what a nurse ought *not* to be. Let us suppose a well meaning neighbor coming in to make herself useful. She rings the door-bell loudly, rushes up stairs, and stalks into the room. She begins at once to condole with the patient, asks about the symptoms, with occasional interjections of scraps of news. "My gracious, how hot this room is!" and she flings up the window. "Oh, did you hear about Mrs. Smith's baby dying? and she is not expected to live." When told about the patient's case, she shakes her head and says, "that's just the way Mrs. Jones began and she had an *awful* time." She undertakes to give some medicine, and spills it on the bed or on the patient's night-dress, misplaces the things, and hunts about for them. She falls asleep, snores, wakes up and says, "oh, how about that medicine—was it the anodyne or the fever-mixture that you were to take?" At the doctor's visit she thinks the patient had a good night; she believes she did have a chill once, don't know what time it was, thinks it was twelve or one o'clock, maybe as late as two. Thinks she was feverish afterwards, but is not sure. Believes she gave the medicine every time; forgot to give the beef tea once, but that was early in the morning, when she was so sleepy that she could hardly keep her eyes open."

But enough of this; the experience is too common for the sketch to need further extension. There are some nurses, like some doctors, who are very good and very efficient in working with bad cases, or with the ones they consider such, but who are apt to neglect those of a less serious character. This is not right. Each case should be accorded the amount of care it deserves; and often patients who are not very sick, or not badly hurt, suffer more and are more exacting than those whose lives are in great danger. Nor is it uncommon for a case to turn out to be really much worse than it seems. Complaints should be heard with gentleness and patience, and due allowance should be made for the restlessness and

nervousness which often attend ailments not in themselves very serious.

In many surgical cases there are critical periods, such, for example, as the first few days after an operation. At these times the skill and nerve of the nurse will be severely tested, as well as her powers of endurance, physical and moral. Or an emergency may arise, such as a hemorrhage, a chill, or other accident, demanding watchfulness, courage and presence of mind. When such things can be foreseen, the surgeon should inform the nurse and direct her as to what she must do. Sometimes by the exercise of tact and judgment the nurse can save herself up, so as to be ready when the stress shall come.

A nurse who is with a case which does not demand constant attention, should always have something to occupy herself with, and this, not only because time is too valuable to be wasted, but because it makes the patient nervous to have her sitting about as if on the watch.

I hardly need urge the importance of the nurse in attendance upon a surgical case avoiding all chances of contact with sources of infection. Is she goes out, she must not go to houses where there are eruptive diseases, or where a confinement has recently taken place. Carelessness in this way may endanger a life.

Duties of Surgical Nurses. — The first duty of the nurse is to carry out the directions of the surgeon.

It is best to have a sheet of paper with memoranda as to the times of giving food, medicine, etc., and to check off each as it is attended to, thus:

12 Noon	Beef tea.	Mr. A. asleep, given at 2.30.
2 P. M.	Quinine mixture.	
4 P. M.	Beef tea.	
6 P. M.	Quinine mixture and punch.	

It is well to have on the same paper a space where other memoranda can be placed, so that the surgeon can see at a glance the history of the case between each visit and the preceeding one. When the case is concluded the memoranda thus made can be placed in order, and will materially aid the surgeon in preparing a report of it, should he desire to do so.

The ventilation of a room is a very important matter, on which the nurse should have clear ideas. The point is to have the air, which constantly becomes fouled, as

constantly renewed from the purest available source. For the most part, the outer air is to be preferred, and ventilation should not be sought by merely keeping the door of the room open, since that would bring in air from the house only, which is apt to be more or less vitiated. One or more windows should be slightly opened at both bottom and top, care being taken that no draught of air comes across the bed.

An open fireplace is an excellent means of ventilation, made much more efficient by the occasional (or constant) use of enough of a fire to create a decided upward draught.

The avoidance of draughts across the patient is always a matter of serious importance. I have several times known neglect in this respect to result in death, after operations not in themselves serious.

Let it be remembered that the air of a room is not necessarily pure because it is cold, nor foul because it is hot.

It is well for the nurse to occasionally go outside for a few minutes, and on returning to observe carefully whether or not she perceives any stale odor in the room. Generally speaking, the temperature in a sick room should be about 70° Fahrenheit, unless the surgeon directs otherwise. Patients can bear a much higher temperature if the atmosphere is dry than if it is damp, as in the former case the evaporation from the surface of the skin causes a loss of body heat which keeps down the temperature of the body itself to the normal standard. I believe this is the reason why the English people as a rule keep their houses so much cooler than we do in this country, the climate being damper than ours, and hence allowing of less evaporation.

When it is desirable, as after tracheotomy, to dampen the air of the room, this can be done in either one of several ways. A large dish pan or child's bath tub may be placed in the room and filled with boiling water, the steam from which will pervade the atmosphere. Or a large, thick towel may be soaked in hot water and hung over a towel rack placed in front of the fire, or in front of the register if furnace heat is used. Various special appliances, under the name of croup-kettles, have been devised, but present no special advantages. Antiseptics may, of course, be added to the evaporating liquid if it seems desirable to do so.

Something may be said about the very

common error of darkening sick rooms. Sometimes, as in eye cases, the exclusion of light is very important, but in general, unless the surgeon orders otherwise, it should be freely admitted, on account of its hygienic effect, both moral and physical.

Children are apt to suffer from vague terrors in a partially darkened room, especially in the feverish condition so often attending their sickness.

Discharges, soiled dressings of any kind, and all offensive matters should at once be removed from the sick room and destroyed. It is very bad economy to save bandages, rags or other materials to be used over again. Rubber cloth may, of course, be cleaned thoroughly, but in many cases, as syphilis, cancer, etc., it is better to substitute for it the cheaper oiled calico, and to destroy it as soon as it is taken off.

In cases of fracture of the lower extremity, and especially of the femur, the nurse needs to be thoroughly skilled in the use of the bed pan, unless, as in most hospitals, fracture beds are used.

The bathing of patients confined to bed is best done by placing a waterproof cloth, covered with a thick, folded towel or flannel, under each limb successively while it is sponged.

The art of changing the body clothes or bed clothes of the patient is best attained by practice, and directions for it may be found in most works on minor surgery, as well as in some general treatises.

The taking and recording of temperatures, as well as the feeding of patients, are to be done in surgical cases as in medical, and need not be dwelt upon here. One or two hints may, however be given. Patients should never be bothered with questions about what they would like. Suitable food should be brought them at proper times, always in small quantity and in clean and tempting form. Often a mere trifle will destroy an appetite which was not at its best very keen. Of course, a choice of articles may be allowed, but a weak and ailing person should not be worried to make a decision when perhaps the idea of eating at all is distasteful.

The nurse should never be impatient if a sick person feeds very slowly. It may make all the difference between a good digestion and a comfortable sleep afterward, and a wretched restlessness and a derangement of the stomach, if the food is at all hurried.

Personal experience many years ago taught me the fact that a period of weakness is apt to occur between three and six in the morning, when a little light food will change utter wretchedness into placid comfort.

Dressings.—The nurse should, as far as possible, have everything ready beforehand for such dressings as may be required. Bandages may be rolled up either with the hands or with the bandage roller or with the key lately devised by Dr. W. B. Hopkins, of Philadelphia. The surgeon should instruct the nurse as to the number, length and width of the bandages likely to be required.

Adhesive plaster, now so largely used, may be cut as wanted, always in the length of the piece if it is important to have it nonextensible. The best way to heat it is by applying the back of each strip, just as it is about to be used, to a flat-iron at the proper temperature.

When the nurse hands a strip to the surgeon, she should stretch it between her two thumbs; he catches it on one thumb and thus has the other end free to guide the hanging end to the exact spot where it is to be applied.

Before an operation or dressing the surgeon should give the nurse a list of things to be provided, as lint, raw cotton, cerate, bandages, scissors, etc. Basins, trays, sponges, hot and cold water, are needed for almost all dressings. Sponges are now discarded by many surgeons in favor of small masses of absorbent cotton, thrown away as soon as used.

When the antiseptic system or any part of it is to be used, the nurse should be informed, so that she may be ready to do her part in every respect.

After an operation or dressing all the instruments and appliances should be carefully gathered up, and at once—as soon as the litter is cleared away—cleaned and dried as thoroughly as possible. So important is this that many surgeons prefer doing it for themselves, and I think that they should make a rigid examination of everything which has been used before putting it away for future use.

Let me conclude this very hasty and, I am aware, very imperfect sketch by quoting what seems to me very practical words of wisdom from one of much experience:

“To all women who undertake nursing

as a profession, I would say: ‘Do not undertake the work with any romantic ideas of being a ‘ministering angel,’ moving about your wards in a very becoming hospital dress, and followed wherever you go by loving looks and murmured blessings from grateful patients, or you will never have the courage to face the reality of finding yourself always a hard worked, often a weary, worn, and sorely-harassed woman. Count well the cost of your undertaking, and then, having resolved to persevere, do so, and I say, God prosper you, for I count nursing the sick as one of women’s highest and holiest callings. Leave no means untried to learn your work thoroughly, from its very lowest to its highest duties.—*Atlantic Med. Jour.*”

A CASE OF ABSENCE OF THE LOWER END OF THE RECTUM, WITH PASSAGE OF THE FÆCES THROUGH THE PENIS. SUCCESSFUL OPERATION FOR RELIEF. — Some time since we noted a case like this, which Dr. Wm. Craig reported in the *Edinburgh Med. Jour.* In the same journal for August, 1884, Dr. Francis J. Shepard writes as follows:

As Dr. Craig states in his paper that he is not aware of any case similar to his own having occurred, and Mr. Holmes, speaking of cases where the rectum communicates with the urinary tract, mentions that he knows of no case where the bowel has been successfully reached through a perineal incision, I thought it might be of interest to place on record a case similar to Dr. Craig’s, where operative treatment had resulted favorably.

On the 16th of November, 1883, Dr. Molson delivered a woman of a healthy male child after a tedious labor. Next day the mother told him she discovered something strange coming from the child’s penis. On examining the parts Dr. Molson immediately recognized the discharge as meconium, and on further examination discovered the infant had an imperforate anus. The mother having consented to an operation, Dr. Molson requested me to take charge of the case. The patient was admitted into my wards at the General Hospital on the 19th of November, being then three days old, and having since birth passed a large quantity of feculent matter by the penis. The child, which was strong and healthy, had some distension and tenderness of the abdomen, but very slight

fullness in the perineum. There was a well marked median raphé and a slight, puckered depression at the site of the anus. I decided first to try and reach the bowel through the perineum. After placing the child under chloroform, I made a free incision in the median line, dissecting carefully backwards and upwards in the direction of the rectum, and frequently placing my finger in the wound to feel for fulness or fluctuation. I dissected in this way for a depth of fully two inches, when discovering a fluctuating tumor I punctured it with my knife, and was pleased to see quantities of feces escaping through the wound. I then enlarged the puncture in the bowel, and without much difficulty drew it down to the external wound, and held it there by catgut stitches.

Almost immediately after the operation the mother removed the child from the hospital, and I did not see it again until June 9, 1884. In the meantime, Dr. Molson had occasionally visited the case, and instructed the mother, in passing bougies, to keep the anus open. The mother, however, did not attend very scrupulously to the directions, and after the operation the opening kept gradually growing smaller. When I saw the child it was six months old and was stout and healthy; the opening had contracted so much that it with difficulty admitted a No. 12 catheter. The mother informed me that the child still occasionally passed feces by the penis, but only when "opening medicine" was given. I intend, when I can get the mother's consent, to incise the opening, and I shall insist on her passing the little finger twice daily through the anus, as Dr. Holmes recommends.

I forgot to mention that the child was the subject of another deformity, viz.: absence of the metacarpal bone, and probably the trapezium of the right thumb. It was the mother's fifth confinement, all the other children were born perfect.

In this case it is highly probable that the rectum opened directly into the membranous portion of the urethra, as, if the connection was with the bladder it is not very probable that the bowel would have been reached by a perineal incision.

Dr. Craig remarks in his paper that examining the preparation of his case it is evident that it was possible to pierce the bowel with a trocar or even with a bistoury, but he says that to have enlarged the open-

ing sufficiently to cut down upon the rectum would have been an operation such as few newly born children could survive, and even if the child could have survived, the want of development in the rectum would have prevented a successful issue in this case.

I can not agree with Dr. Craig's conclusions, for if the bowel is not reached, the child will certainly die, and I do not think the fear of the severity of the operation should influence the surgeon in his endeavor to reach the bowel. Again, as the rectum is pretty moveable in the infant, it can be brought down, even if the lower end is undeveloped.

And Dr. D. Duncan Main says: Two months ago I had a case of imperforate anus. I cut in one and a half inches without finding the bowel. Being afraid to go any further I dismissed the patient. The following day they came and told me the child had had an action of the bowels. Of course I did not believe them, and on making inquiries I found that the child had passed yellow and dark material through the urethra. The child died on the fourth day after the operation. I am inclined to think that this was a case similar to Dr. Craig's.—*Med. and Surg. Reporter.*

ABSTRACT OF AN ADDRESS ON THE NEOPLASTIC DIATHESIS, Delivered before the International Medical Congress, August, 1884 by O. Verneuil, M.D.,—M. Verneuil desired to prove:

1. That all true neoplasms, by the identity of their constitutional origin and their primary causes, make up a natural pathological group.

2. That they grow by virtue of a special disposition of a particular morbid disposition—in a word, of a diathesis which he calls neoplastic.

3. That this diathesis is neither original nor independent, but derived from a much more general constitutional derangement—arthritis.

This leads him to say that the true neoplasm is an arthritic manifestation of the same type with biliary gravel, eczema, rheumatism, gout, etc. He explained at length these three propositions, commencing by a general review of neoplasia and of its varieties, as well as of the different neoplasms. Among these last he retained only those which he called idiopathic or true; and after setting forth their anatomical, physio-

logical, clinical, and etiological characters, he arrived, by summarizing these characters, at the following definition. A true neoplasm is an accidental organ, definite, superfluous, and harmful, formed by the hyperplasia of anatomical elements and tissues morphologically and chemically altered; an organ which is the seat of a perverted and disordered nutrition, and a manifestation of a diathesis, having its root in the arthritic dyscrasia. This definition has as its object the definite constitution of the group of neoplasms, too often confused with that of tumors.

In the second part of his address, M. Verneuil drew attention to the fact that the etiology of neoplasms was imperfectly known, and not sufficiently studied. He criticized the etiology at present accepted, and, in particular, the abuse which has been made of the word diathesis. He admitted but one diathesis for all neoplasms, at all ages, and in all conditions. This diathesis he believed hereditary. When it existed in a family, it could transmit itself to the descendants under a like or a different form. The oneness of the diathesis was proved, further, by the multiplicity and the diversity of the neoplasms in the same subject at one and the same time, or at different periods of life, by the multiplicity of pathological tissues in one and the same tumor, by the substitution of one form of neoplasm by another at the same spot. He examined, with the view of refuting them, the objections of the oneness of the diathesis, based on the difference of structure, of the course, and the gravity of the different neoplasms.

He further laid it down that, if the ordinary causes cannot give rise to a neoplasm without the neoplastic diathesis, this in turn is powerless to produce anything of itself, and without the aid of the requisite cause. In the third part of his address, M. Verneuil, recognizing that the admission of a diathesis does not determine the question of etiology, set himself to prove that the neoplastic diathesis springs directly from arthritism—an idea already introduced to science by Bazin, but so far imperfectly demonstrated. He brought in as arguments supporting it the association, or the constant alternation, of neoplasms, and arthritic manifestations; and at the same time, the extreme rarity, and almost incompatibility, of these same neoplasms, with scrofula, itself far removed from arthritism.

Professor Verneuil, in concluding, said he had not concealed from himself the fact that his ideas presented a broad side to criticisms, and that he must, to have them accepted, keep up facts and proofs. He had not, however, hesitated in laying them before the Congress, in the hope that they would give rise to both discussion and observation, and would contribute, by the study of etiology, to raise practice out of the surgical path, in which at present it was exclusively occupied.—*British Medical Jour.*

THE TREATMENT OF SCROFULOUS CERVICAL GLANDS BY EXCISION.—Dr. J. Fagan has often advocated the excision of scrofulous cervical glands as the most radical and effectual method of treatment, and he now ("Dublin Jour., of Med., Science," June, 1884) relates three or four cases tending to show the good results of this method of treatment. He calls attention to a few points connected with the operation and the after-treatment which he considers worthy of notice:

1. The incision over the glands should not be made too free, but all the underlying structures should be freely divided from angle to angle of the skin-wound. When the gland is freely exposed, it should be seized with a tumor-hook and steadily, but gently, drawn through the wound. When all the affected glands are removed, any ragged shreds of cellular tissue that remain should be clipped away with the scissors, all bleeding points should be secured, and the wound well swabbed out with a strong solution of chloride of zinc.

2. Regarding drainage of the wound, he has had good results both with and without it; but, on the whole, thinks it better and safer to use either horse-hair or fine tubes. This is especially necessary where the wound is large and where there has been oozing of blood or difficulty in enucleating the glands.

3. The finest silver wire should be used in suturing the wound. It should not be passed too deep through the wound, which should be most accurately adjusted, and the sutures should be removed not later than the third day, and sooner if the slightest inflammatory blush should appear at their points of exit from the skin. The marks that follow the suppurating tracks of the sutures are far more disfiguring than the scar of the incision.

4. The most effectual way of maintaining

the parts at rest during the healing of the wound is by means of a night-cap, with a pair of strings attached at either side, which are brought down and fastened in front by means of a thoracic binder, and drawn sufficiently tight to bring the head well forward upon the chest. Such a form of restraint is especially necessary in the case of children.

Should inflammation attack the wound, the tension should be at once relieved by removing some, if not all, of the sutures; and, if there has been no drainage, a probe should be passed into the most dependent angle of the wound and a small tube inserted.

The author holds firmly to the opinion that when disease is limited within a well-defined area, and the tissue involved is steadily however slowly, deteriorating, its total extirpation is the only rational and effectual way of dealing with it; and the principal is, he maintains, equally applicable whether the structure involved be gland, bone, or joint, provided anatomical considerations allow of such operative interference.—*New York Medical Journal*.

REGULATION OF DIET. — As illustrating the great importance of this all-important question, we are glad to quote the following remarks of Dr. R. H. Gunning (*Edinburgh Med. Jour.*, June, 1884).

The function which influences all others most is digestion. This all right, all is right, and *vice versa*. Cures after operations are accomplished by nutrition, and this will be good or the contrary as the digestion is good or the contrary. This subject of digestion and nutrition should be well understood by surgeons. The preparing a patient for an operation or treating him after hang much on this. Whatever dexterity a surgeon may have, he should also understand physiology well to have success. He may fail sometimes from neglect of the simplest dogmas of physiology. A friend and myself, when abroad, had many cases of cataract. We did the operation the same way, he better than I, for I had no gift of hands. He lost very many of his cases, and mine succeeded. He said one day he could not understand this. I replied, "it is simple, you let your patients eat and drink as they and their friends like after the operation, while I starve mine for one or two days after the operation, until the wound is healed and the retina is safe."

A full stomach or improper food will soon befool the best done operation. I have cured serious fractures without fever intervening merely by semi-starving the patient. In my own case, when shot in the head, I abstained from all but water, or a little tea or dry toast for days, and had scarcely pain, and no fever or erysipelas. After a few days I used stewed prunes, potatoes mashed with salt butter, to be simple and laxative. I took no wine and no meat for weeks, and a remarkable cure was the result.

In all cases, medical or surgical, attention must be given to the digestive organs, to see that no peccant or irritating matter exists, and they must be carefully watched afterwards.

I once treated a lad for fracture of both thigh bones, a bullock car having passed over his limbs. I set the limbs and kept him semi-starved for days, only gruel and weak chicken broth was allowed. He had no fever, and got round beautifully. On another occasion the car passed over him and killed him. In short, let all ingesta be of small quantity and mild quality, to avoid inflammation. Spirits in every shape are injurious.—*Med. and Surg. Reporter*.

A NEW RADICAL OPERATION FOR CANCER OF THE RECTUM.—M. Pollosson ("Lyon med.," May 18, 1884) recommends a new procedure for the radical cure of cancer of the rectum, which consist, briefly, in the performance of a double operation. The primary operation is merely the formation of an artificial anus and the complete closure of the lower end of the bowel by cutting it across the sigmoid flexure, invaginating the extremity of the lower end and closing it with sutures. After this operation has been successful, he proposes to extirpate the cancer in the usual way. His idea is that by this method the rectum is rendered passive and inert before the extirpation, and many of the dangers attending the operation are thereby avoided. His article is rather a suggestion than a report of actual experience, the latter being confined to doing the first part of the operation in a single case.—*New York Medical Journal*.

MECHANICAL TREATMENT OF HÆMATEMESIS. — The difficulty of controlling hemorrhage from the stomach or œsophagus by any of the ordinary means led Dr. Schilling

to employ an apparatus by which direct compression might be made against the inner walls of the organ. It consists of a flexible stomach tube with a rubber bladder at one end and a stop-cock at the other. The bladder is introduced and very slowly and carefully inflated until it is made large enough to excite contractions in the stomach. In this way the hemorrhage is controlled. The air should be let out again very slowly, so that the clots may not be loosened. If the bladder has been oiled previous to its introduction, the danger of the adhesion to it of the coagula is lessened. If this procedure fail to arrest the hemorrhage, we may then conclude that its source is in the œsophagus (usually it is at the lower end of the tube), and recourse must then be had to the œsophageal tampon. The author relates one case of repeatedly occurring hæmatemesis which by use of this bladder for twelve minutes was permanently arrested. The inflation is to be moderate, as the object is to excite contractions, not to distend the organ.—*Centr. f. Chirurgie.*

GALVANOPUNCTURE IN ANEURISM OF THE AORTA. — Dr. Francesco Brancaccio reports the case of a man æt. 64 years of age, of intemperate habits, who complained of a pain in the left anterior part of the chest over the base of the heart, which radiated to the shoulders. The pain came on suddenly after a muscular effort, and was intermittent. Examination revealed a tumor, limited above by the upper border of the second rib, on the right by the sternum, and on the left by the mammary line, and below was continuous with the heart. The diagnosis of aneurism of the ascending portion of the aorta having been made, it was determined to practice galvanopuncture. A fifteen cell Daniell's battery was used, two needles being carried into the sac through the third interspace to a depth of one inch and one-fifth, and an inch and a half apart. The first sitting lasted sixteen minutes. In the afternoon the patient felt better, the tumor was smaller, the pulse, which had fallen from 118 to 90, was stronger, and the respirations were less frequent. Twenty days afterwards the battery was again used, with twenty elements, for fourteen minutes. Altogether it was used four times, and the patient was completely cured. — *Revista Internas. di Med. e Chir.*

OBSTETRICS AND DISEASES OF WOMEN.

GYNÆCIAL USES OF HOT WATER. — R. H. Gunning, M.D., F.R.S.E, read before the Medico-Chirurgical Society, of Edinburgh, May 7, 1884, a paper on "some points of importance in medical practice," from which we select the following:

Ladies suffering agonies in menstruation are better relieved and cured by very hot hemicupia than anything else. Of course, complications must be attended to at the same time. The bowels need attention, or a weak circulation or cold extremities may need a hot stimulant—hot punch—but such complications being attended to, a hot hip bath is the surest means of relieving pain. And not only in painful menstruation, but when defective or in excess. Used for successive periods, the first is increased, the second is diminished. In acute leucorrhœa or irritated rectum, in the tenesmus of diarrhœa, besides the hip bath, hot water—simple or medicated with opium—can be injected into the passage. I even use a very warm hip bath after labor, when the lochia are excessive and the patient is feverish. In this way ablution is effective, the parts are soothed, and a source of puerperal fever—especially in warm climates—is removed. I have the patient carefully lifted and set down in a plentiful and very hot hip bath. A recent illustration of the use of hot water occurred to me in Italy. A lady's absence from the table d'hôte was daily regretted by her husband and friends, and medicines were doing her little good. I found she had had an abortion about a month back, and that the hectic and lassitude were due to the painful post partum discharge. I advised her to sit down at once and again and again in very hot water, and also to inject it plentifully. She was soon relieved, and on the second day was at table and out everywhere, quite well.—*Edinburg Med. Jour.*

PROTRACTED GESTATION.—A singular case is reported in a recent number of the *Gaz. des Hôpitaux*. At the autopsy of a woman, 84 years of age, a hard-walled, irregular-shaped cyst was found in the right Fallopian tube, which, on being opened, was found to contain a completely unchanged, fresh-looking, normally-developed foetus of apparently six or seven month's growth. The woman was known to be

pregnant when she was 28 years of age, but not afterwards, so that it is supposed she carried her young 56 years.—*Medical Press.*

MORPHINE IN THE VOMITING OF PREGNANCY.—Dr. W. C. Roberts, Albany, Wis., writes that in three cases of obstinate vomiting of pregnancy he successfully used muriate of morphine per rectum in half-grain doses. Dr. R. asks for the experience of others with morphine given in this way.

AN apparently authentic account is given of the birth of four living male children by a woman named Mrs. W. H. Pullman, who resides near Eureka, Mo. The mother had previously given birth to triplets.—*Med. and Surg. Reporter.*

MISCELLANY.

MODES OF PRESERVING SPECIMENS FOR MICROSCOPIC EXAMINATION.—Prof. Cornil while complaining that many valuable specimens have been ruined, which were sent to him for examination in the pathological laboratory, on account of a want of proper precautions for their preservation, gives some good rules to guard against these accidents. The reason why the specimens were spoiled is that sometimes they were already decomposed when put into a preservative fluid, and others were too large for the amount of preservative fluid. Valuable spinal cords have been sent twisted up in corkscrew fashion, in phials containing alcohol enough to simply harden the surface, while the interior softens and decomposes. For a given specimen the fluid which suits it best should be selected. It is often impossible to examine the most interesting parts of a specimen because a hardening agent has not been used sufficiently early. Sometimes a brain or cord came after having been for several days or weeks in a strong solution of chromic acid, and the surface was burnt while the interior was decomposed. Sometimes a tube is sent, supposed to contain a particular kind of bacteria, and collected without any precautions, naturally only the bacteria of putrefaction would be found. Often a big-bellied vessel is sent, with a narrow neck, through which the specimens had to be squeezed, and of course misshapen, in order to be inserted, and which had to be broken to extract the specimens.

1. A specimen is in its best condition

when taken from the living body, or as soon as possible after death, and placed in an appropriate liquid immediately. Fresh tissues taken just after an operation or during an autopsy, present a cohesion which is rapidly lost when the blood and other fluids have left them, and the cadaveric decomposition has commenced. So it is necessary to place them at once in a preservative or hardening fluid, particularly if one wishes to study the delicate modifications of the cells, or to search for pathogenic bacteria.

2. Specimens removed in surgical operations should be cut into fragments that are very small in proportion to the amount of liquid in which they are to be placed. The amount of the fluid should be twenty times as great as the size of the specimen to be put in it. If it be simply to determine the nature of a fleshy tumor, the razor or bistoury is used to detach from the centre and from one or two points on the periphery, two or three cubes of about one ccm. in size, washed in distilled water if bloody, and placed in alcohol of 80° to 90°, suspended in a vessel which holds about fifty grs. of alcohol, with a large mouth closed by a ground glass stopper or a metal cover.

Instead of suspending the specimens, they may lie upon a bed of tow at the bottom of the vessel. Cork stoppers, besides closing the vessel imperfectly, have the disadvantage of growing a mold on their inner face. If it is necessary to use them, dip their lower portions in paraffine and seal them with wax.

To study the indirect multiplication of cells in tumors or affections of the skin, after selecting a part which is supposed to be in active development, it is placed immediately in absolute alcohol or in a solution of chromic acid 2-1000. Ten minutes after removal would be too late. To separate the elements of a tumor, a fragment of about 2 cm. should be placed in a vessel of 30 gr., containing two parts of distilled water to one part of alcohol at 90°. The fluid should be renewed in 24 hours, if the examination is not made.

To preserve all the blood contained in vessels or in cavernous tissue, as an angioma, Muller's fluid should be used (20 grs. bichromate of potash, 10 grs. sulph. sod., to a litre of distilled water).

If the tumor is small, the whole of it is put in without opening it, or a lobule, if it be too voluminous. The volume of the fluid

should be twenty times that of the specimen. To study nerves taken from a tumor, a sarcoma or myxoma of the nerves, or in the amputation of a limb, etc., a thin shred of nerve, about 1 to 3 centimeters long, should be removed by the scissors, fixed at its two ends and placed in a groove on a small splinter of wood, a match for example, which is to be inserted in a glass tube containing a one per cent solution of osmic acid. The subcutaneous painful tumors which are supposed to contain nerves, are also put in the same solution of osmic acid, the fragments being small enough to permit the solution to penetrate into their interior, and should not be more than two millimeters thick and six or seven millimeters long. After remaining 24 hours in five times their volume of osmic acid, they are to be washed with distilled water and put in absolute alcohol.

To preserve the specimens for examination with the naked eye, a temperature of 32° to 36° F. will keep them for several days without change. Otherwise, a ten per cent solution of chloral preserves pretty well the appearance and color of the parts. The liquid should be renewed if it becomes muddy, and the specimen should be suspended in ten times its own volume of the solution.

Alcohol is the best preservative. To use it properly the specimen should be washed for twenty-four hours in a large vessel where a current is established from the bottom by rubber glass tubing, and then placed in alcohol, so as to be bathed by it at every portion, the dissected or isolated parts suspended by threads from glass rods. Another way is to wash the specimen quickly, then place in half water, half alcohol for two or three days, and then put it in alcohol of 80° to 90°. The advantage of the alcohol is that it permits of an ulterior microscopic examination, which other liquids do not. But whatever means are employed, the specimen will lose its color.

3. To obtain the bacteria from a liquid, a very clean bistoury should be taken, which has been washed in alcohol and heated in a flame, on the point of which a drop of the liquid is taken up and spread upon a thin layer of glass, which has been washed with water and with alcohol and dried with care. This is covered with a similar piece of glass which has been treated in the same way, and the delicate layer of fluid dries quickly, and they are then wrapped in paper. They

can be kept one or two days before being used. The blood obtained by pricking the finger after a careful washing with soap, and then with alcohol, can be prepared in the same way; but to preserve the red globules, the glass must be exposed for a quarter of an hour in a moist chamber to the vapors of osmic acid. As urine dries very slowly, owing to the hygrometricity of its salts, a very small quantity should be taken and dried over the lamp flame. The mætus must be washed with care, and the material taken during micturition. With women it is nearly always mixed with the secretion of the vulva and vagina.

It is useless to search for bacteria in summer twenty-four to thirty hours after death, but if the cadaver has remained at a temperature of 32° to 36° F. they can still be found at the end of thirty hours.

In looking for bacteria in tissue sections, they should be taken from the living body, as a small portion of the skin or subcutaneous adipose tissue detached from the border of an incision made in opening an abscess, or a minute section made with the patient's consent, from a tubercle of lupus or leprosy, or in erysipelas, etc. These fragments of one to two millimetres thick by eight or ten long, are at once placed in a phial containing alcohol at 90° degrees, which is best for them, although it contracts them a little.

4. Precautions recommended for certain organs and tissues particularly.—Skin. As many of the cutaneous eruptions blanch out after death, so as to be no longer recognizable (spots of typhoid fever, erythematata, superficial papules, etc.) it is well to mark them before death with aniline or nitrate of silver. The parts so marked are to be taken as soon as possible and put in alcohol, Muller's fluid, or osmic acid.

Nervous system. — Bichromate of ammonia 2-4 per cent solutions, sections to be made carefully. In tuberculous meningitis, two convolutions with the pia mater covering them undisturbed may be put in alcohol. Very minute fragments of the brain and cord may be put in osmic acid to study fatty degeneration.

The reagents mentioned are useful in preserving the various parts of the body in a simple manner. To preserve the retina, osmic acid should be injected as soon as possible by a fine (Pravaz) syringe, through the sclerotic into the vitreous humor; 24 hours later the globe is to be cut through

and put in distilled water for an hour and then put into alcohol. This can be done after the enucleation of a diseased eye; or it can be put entire into Muller's fluid, taking care first to prick the sclerotic in several places to permit the preservative fluids to penetrate into the interior.—*Jour. Am. Med. Association.*

THE ACTION OF BACTERIA ON STARCH.

—In a communication by J. Wortmann (*Journal of the Chemical Society*) are detailed the results of some experiments made upon the influence of bacteria upon starch, which are of some interest from a medical stand-point as possibly throwing some light upon the mode of action of so-called pathological bacteria. In his work, "Unber die niederen Pilze," Naegeli referred to the secretion by these low organisms of a special ferment capable of changing milk-sugar into fermentescible sugar, and starch and cellulose into glucose, and of dissolving coagulated albumen and other albuminates; and Sachse also alludes to the circumstances of starch solution undergoing no change so long as it is protected from the influence of organic germs, by which, otherwise, it quickly undergoes transformation. The following are Mr. Wortmann's conclusions;

1. Bacteria are capable of acting on starch, whether in the solid state, as paste, or in solution, in a manner analogous to diastase.

2. As in the case of diastase, different kinds of starch are attacked by bacteria with different degrees of rapidity.

3. The action of bacteria on starch is manifested only by the absence of other sources of carbon nutriment, and when access of air is not prevented.

4. The action of bacteria on starch is affected by a ferment secreted by them, and which, like diastase, is soluble in water, but precipitable by alcohol.

5. This ferment acts precisely as diastase in changing starch into sugar capable of reducing cupric oxide, but is not possessed of peptonizing properties.

6. The ferment itself is also capable of acting on starch in the absence of oxygen.

7. The ferment is secreted by the bacteria also in neutral solution of starch, and exerts its influence under these conditions.

8. This influence is expedited in slightly acid solutions.

The author concludes his paper with speculations as to the conditions under

which bacteria are capable of generating this amylolytic (diastatic) ferment, instead of the ordinary peptonizing one.—*American Druggist.*

THE next number of the *North American Review* is to contain an elaborate defence of the Tariff system, prepared by leading advocates of protection.

THE MODERN VIA AD ASFRA—(A medical fable).—Once upon a time a poor but humane physician was riding along a road which lead by a dark forest, when he saw by the wayside a sick and miserable dog which had laid down to die. Moved with pity he got down from his carriage, picked up the poor animal tenderly, and gave it some food and drink. Suddenly the dog vanished, and he saw standing before him a beautiful fairy.

"You have saved me from a miserable doom by your compassion," she said. "Command now anything you wish and it shall be yours."

The astonished physician replied, "I am a poor man, I should like to be rich."

The fairy waved her wand, and extended to him a piece of paper and a bottle filled with a dark colored liquid. "Here," she said, "is a prescription for an Infallible Compound Hair-Restorer. It will never fail, and it has been indorsed by the leading clergymen on both continents. The world is yours! Do you wish more?"

"I am a quiet man," replied the doctor, "and little known. I should like to be famous."

"You shall be more; you shall be immortal." Waving her wand again, she presented to him a small, dark, and curiously shaped instrument. "See," she exclaimed, "it is new and an 'Unquestionably Perfect Pessary.' It radically restores every malposition. Your name is blown into the side. Generations of suffering women and successful doctors will read, and bless you. I have tried it myself," she added, blushing a little, and vanished.—*Boston Medical and Surgical Journal.*

THE ONION AS AN ANTIDOTE TO STINGS AND BITES.—We clip the following item from the *Medical Age*:

"An old woodsman of Australia, who used to catch snakes for a pastime, says that a raw onion bruised and applied as soon as possible to the wound, is a certain

cure for the bite of all venomous serpents of that country, except the death adder, which he admits is so poisonous, and its poison so quick in acting, that there is no known remedy for it. That the onion is a specific for the stings of poisonous insects of all kinds has long been known to the writer of this paragraph, who, when a boy, invariably carried one on expeditions with his companions, against hornets' nest, etc. It was found that the application of onion juice would instantly allay the pain caused by the stinging of hornets, yellow-jackets, wasp, etc."—*The Medical Index*.

DEATH OF PROFESSOR COHNHEIM.—The whole medical world will hear with a feeling of profound regret that Dr. Cohnheim, the eminent pathologist, died at Leipsig on the 14th, of August, in the sixty-fourth year of his age, death being due to gout and renal disease. The deceased was one of the best known and the most distinguished of the many well-known distinguished disciples of Virchow, and was for four years assistant to the latter in the Pathological Institute at Berlin. From this post he proceeded, in 1868, to Kiel, where, until 1872, he acted as Professor of Pathology, and after occupying a similar post at Breslau from 1872 to 1876, he migrated to Leipsig as the successor of Wagner in the chair which he held till his death, a fortnight since. Cohnheim's researches into the nature of embolism, and his observations on the movement of the white blood corpuscles during inflammation have long been part of the groundwork of pathology; his numerous important labors entitle him in the highest degree to take rank among the founders of the modern science of pathology.—*Medical Press and Circular*.

WHY NEGROES ARE BLACK.—Surgeon-Major N. Alcock has contributed to *Nature* an interesting communication on the reason why tropical man is black, in which he suggests that as in the lowest animal pigment cells placed behind a transparent nerve termination exalt its vibration to its highest pitch, the reverse takes place when, as in the negro, the pigment cells are placed in front of the nerve terminations, and that the black pigment in the skin serves to lessen the intensity of the nerve vibrations that would be caused in a naked human body by exposure to a tropical sun; that in fact, the pigment plays the same

part as a piece of smoked glass held between the sun and the eyes.—*Medical Press and Circular*.

PERSPIRATION OF THE FEET.—Prspiration of the feet is not a disease, but it is a great inconvenience, especially if accompanied by a disagreeable odor. Certain physicians think that there is no danger at all in suppressing this perspiration, and prescribe astringent lotions of oak bark, tannin, and other substances. Others hold that the infirmity should be protected, and prescribe only a non-toxic substance which will neutralize the odor. For this purpose the following prescription is the best, and is very cheap:

B. Permanganate of potash, 1 part.
Distilled water, 100 parts.
Thymol, gtt. xxx (to 3ij of water).

Filter-paper, linen, calico, or cork or straw soles may be soaked in this mixture, and then dried. They are then cut of the desired size, and a pair placed in the shoes every day. The feet are not colored by the potash. If there is any color, a thin coating of the white of egg, collodion, or tincture of benzoin may be used on the false soles.—*Bull. Gén. de Thérap.*

WHAT IS THE BEST TREATMENT FOR CONSUMPTION?—Having used MCARTHUR'S SYRUP OF HYPHOSPHITES for more than a year, I would like to report to you one case in particular. In June last I was called to see a young man, age 18, whose mother and one brother had died from phthisis. I found him suffering from severe pleuritic pain, night sweats, severe, distressing cough, and profuse expectoration, characteristic of first stages in phthisis, tongue coated, pulse 128 to 130, temperature 104° at night, profuse crepitus in lower half of left lung, dullness on percussion over almost entire left side, intercostal depressions marked in left mammary, extending backwards into left axillary region, no appetite, and general facial expression of rapid emaciation, etc. I began the use of MCARTHUR'S HYPO. COMP., and continued it four months, using some other means for night sweats and such other conditions as seemed to require attention. To-day the young man is about the farm doing light work, no cough, no night sweats, the wasting of lung substance is arrested, leaving dullness in lower left lung, vesicular murmur gone, but the disease is temporarily arrested at least, and he has increased his weight forty-three pounds. With care I expect to get him through the winter in good shape, and possibly a permanent recovery may ensue. I have used the Syrup in five other cases in 1883, with gratifying results. Very respectfully,

CHARLES F. BRANCH M.D.,
Secretary Board U. S. Examining Surgeons.
Coventry, Vt. Office of Board, Newport, Vt.

Society Reports.

ACADEMY OF MEDICINE.

Meeting of September, 8, 1884.

W. H. WENNING, M.D., G. A. FACKLER, M.D.,
Pres't in the Chair. *Secretary.*

Case of Supposed Poliomyelitis.

DR. E. G. ZINKE presented an extremely interesting and unique case. A boy 10 years of age, had taken a very long walk about ten days ago. The following morning (Saturday) he complained of severe tooth-ache, which was followed by abscess and swelling. This had almost subsided by Monday morning. Tuesday a difficulty in locomotion was noticeable and for several days his condition remained unchanged. Saturday speaker saw patient for the first time. He was then free from pain, temperature 99° , pulse 88° . When requested to rise he did so slowly and awkwardly and retained the upright posture with difficulty. He crossed his legs in the act of walking. Sensation was perfect. Since then his condition has gradually grown worse. He cannot remain standing with his eyes closed, but reels and falls.

Tendon reflex is exaggerated. The trouble seems to be ascending. Patient is not able to hold up his arms for any period exceeding three seconds. Pupils are dilated. No difficulty in the passage of urine or feces.

Speakers attention was directed to the spinal cord and a diagnosis of meningitis made. Upon inquiry speaker stated that family history was perfect, that he was unable to trace any phthisis or other hereditary trouble. There was no tenderness along the spine.

DR. THRASHER remarked that the history related was hardly that of a case of meningitis. In no case under his observation has he noticed so small a rise in the temperature or so few symptoms of pain. This boy was attacked suddenly, with no marked pain or rise in temperature, except that which may be accounted for by the abscess. It is almost too late in life to suspect it to be a case of acute anterior poliomyelitis, still the diagnosis would seem more probable than a meningitis. Speaker remembers a case of poliomyelitis anterior acuta, with almost the same train of symptoms as Dr. Zinke's case. Patient

lives but never regained the use of one lower extremity.

DR. STEWART did not believe that we were justified in calling this a case of anterior poliomyelitis. This disease rarely manifests itself so late in life, rarely pursues such a rapid course, rarely is there so much disturbance evident within so short a time, and usually a decided fever is noticed, perhaps not rising to 104° - 5° , but at least over 100° . Yet the symptoms are not those of acute meningitis, in which we certainly have more rise in temperature and more disturbance manifest, not only motor but also sensory, together with greater or less disturbances of the sphincters. Could we not in the case reported account for the symptoms by supposing that, due to the excessive exercise there resulted a severe strain upon the motor centres, not producing inflammation but an irritation. A few days rest may improve the boy's condition. If the patient had a specific history a meningitis might be suspected to exist. As for treatment absolute rest is indicated. A possible inflammatory condition may be prevented by cold to the spine and head.

DR. HOTTENDORF, judged this to be a case of hyperæmia since it pursued such a rapid course. He would adopt as treatment the administration of mild diaphoretics, as the spts. mendereri and advise rest.

DR. RAVOGLI remarked that this was probably a case of irritation followed by an exudation. In a true myelitis we have not so many symptoms coming on so rapidly and usually the sphincters are involved. Great pressure must be exercised to bring about such symptoms as were manifested in Dr. Zinke's case, and these may be accounted for by a rapid exudation. He would enforce absolute rest and employ revulsive applications to produce absorption of the exudation.

DR. NICKLES said that he would advise to keep the boy quiet. If it is a case of inflammation it is certainly one of light character. The symptoms related were not those ordinarily noticed in meningitis or myelitis. If the history is correctly given, we must assume that over exertion and hyperæmia following. Whether we have an exudation in addition it is difficult to state. In simple hyperæmia no exudation is present. If exudation attends the hyperæmia we must consider it a case of inflammation. Absolute rest is indicated what-

ever the pathological condition may be, together with light diaphoretics and cathartics.

DR. ZINKE stated that he had confined the boy to bed, put him upon bromide and subsequently added ergot and made counter-irritation to the spine. This has been the treatment adopted so far. He had presented the boy to the Academy on account of the striking symptoms and any hesitancy in bringing him there was overcome by the interest of the case and a fear that the entire train of symptoms might disappear as suddenly as they came on. He was not inclined to consider the case as lightly as some of the speakers. He can not believe that the symptoms are due to a slight disturbance. He did not know whether there was any exudation. We know that in tubercular meningitis a large amount of exudation may exist without any symptoms being evident until in consequence of some irritation as a fall or intestinal disturbance the disease assume an acute form. Why then could we not expect in this case a longer existence of an exudation, and an acute exacerbation brought about by the severe exertion. This certainly would merely bear speculation.

DR. STEWART remarked that if this case was that of a man 60 years of age with a specific history then there might have been exudation present and the disease take on an acute form.

It is not probable that in this case a chronic exudation was going on without presenting symptoms, and that the long walk taken by patient had brought on the acute attack. Since the boy had frequently indulged in such long walks previous to the one referred to.

DR. NICKLES said that he could not imagine a case of tubercular meningitis without noticeable symptoms during the early part of the trouble and the subsequent symptoms of irritation and depression.

DR. ZINKE remarked that he had reported a case of a young woman, who on the morning of the day of her expected confinement, arose from her bed, was attacked by convulsions and died. A post-mortem was made, and conclusive evidence found of the existence of tubercular meningitis with extensive exudation. No sign of the presence of such a lesion was evident before death.

DR. STEWART said it is a well known fact that tubercular meningitis may exist

without giving any pronounced symptoms of its presence at first or in the early stages of the disease. Henoch mentions such a case in his Manual of Children's Diseases, in which the child was found sitting up in bed playing with his toys, and only troubled with occasional vomiting, but because of a marked irregularity in the pulse, Henoch made a diagnosis of tubercular meningitis. The symptoms of this disease gradually came on and increased in severity until the child died. The post mortem confirmed the diagnosis. Speaker supposed that every gentleman present had observed cases of tubercular meningitis in children, in which at first there was no other symptom, perhaps than an irregularity in breathing, or of the pulse, or a sluggishness about the pupil, but no one has seen a case of this disease in which positively no symptoms at all were present, and in the case mentioned by the last speaker, in which a post mortem was held and tubercular meningitis was discovered, there *must* have been symptoms, although they may have been attributed to the pregnancy. Therefore speaker was of the opinion that the case presented by the gentleman this evening could not have been tuberculous in origin, nor could there have been an exudation previous to the onset of the present symptoms.

Meeting of September 15th.

DR. ZINKE stated that Dr. Zenner had seen the case presented by himself to the Academy at the last meeting, and as the Doctor's views were different from those which had been previously made, he requested him to state the result of his examination to the Academy.

DR. ZENNER said that he had this day seen the interesting case referred to. He found a boy ten years of age, ordinary functions apparently normal, no impairment of special senses or general sensibility. He is unable to walk on account of incoördination of movements, and, if not held, falls. The symptoms are probably due to ataxia in part, and to some weakness of the muscles. The ataxia is not noticeable in the recumbent posture, for the patient in that position can move arms and legs in any direction. He has little power to grasp, and the extensors and deltoid are affected. The disease came on rapidly, and appears to change rapidly for the better. It came on after an acute trouble, perhaps the swollen cheek and ab-

sciss. It may best be termed an acute ataxia, while there is evidently also some paresis. The chief symptom is the incoördination of movements. It may be likened to the acute ataxia following such diseases as diphtheria and other acute infectious disorders, or resulting from metallic poisoning. In this case the exact pathological condition has not been determined. We can scarcely suppose that any but transitory changes have taken place. In this case the changes are located chiefly in the motor area of the cord. It came on suddenly and will probably disappear within a short period of time. The changes are but slight.

Meningitis can be excluded without difficulty, since such symptoms as pain, spasmodic contraction of the muscles, fever, etc., are absent. Likewise, any other profound disease within the vertebral column must be disregarded.

What the primary cause was speaker was not prepared to say; he might, however, suggest a slight diphtheria which may have passed unnoticed. This, certainly, is but an hypothesis.

THE PRESIDENT inquired whether it was possible that such a slight form of diphtheria could be followed by such profound lesions?

DR. ZENNER said he thought it might, as very slight cases of diphtheria were followed by other paralyses.

Correspondence.

CONGENITAL MALFORMATION OF THE STOMACH.

Editor Lancet and Clinic:

Having read in the LANCET AND CLINIC of Sept. 20, 1884, the report of a case of "Congenital Malformation of the Stomach," by Dr. C. W. Earle, of Chicago, I am led to report a somewhat similar case, which occurred in the practice of Dr. C. S. Smith, of this city, and at the post mortem of which I was present in the capacity of assistant.

The following points are taken from the records which I have kept of the case.

The child seemed well developed and well nourished; bowels moved once, a *very* little; oil was given several times, without any effect; vomiting of meconium occurred several times, no fever, death occurred on the third day.

The autopsy revealed a complete diaphragm situated in the middle third of the duodenum, no constriction of the calibre of the gut, no evidences of inflammation.

Mr. Sutton reported a similar case to the Middlesex Hospital Medical Society of London, in 1883.(!)

In Mr. Sutton's case the obliteration occurred at the same point as in the case here reported, but in the former there was more dilatation of the stomach, "although the child only lived a few minutes," and nothing is said of the nature of the obliteration, except that it was congenital. In my case no dilatation was noticed.

Would not a careful study of all reported cases place the diagnosis of this malformation during life within the range of possibility? I am inclined to believe that we might, in some cases at least, be able to arrive at a sufficiently positive diagnosis to warrant us in making an exploratory incision.

With a positive diagnosis an operation is *imperatively demanded* as it is the *only* means which offers the least chance for life.

MILES F. PORTER, A.M., M.D.
106 Fairfield Ave. Ft. Wayne, Ind.

PERSPIRATION OF THE FEET.

Editors Lancet and Clinic:

Every now and again I see in the LANCET AND CLINIC, as well as other journals, some remedy for *sweating feet*. The trouble is very offensive to the individual himself and to his neighbors. The following is a complete and absolutely certain remedy:

R. Nitrate of silver, grs. xl.
Aqua font., ʒi.
ft. sol.

After the usual ablution and moderate drying of the feet, apply the solution to all the soft parts—between the toes and on the base of the foot—thoroughly with a bit of sponge on a holder. Repeat this application occasionally, say once a week or as the trouble recurs. E.B.S.

A neatly prepared little pamphlet on the feeding of infants has been published by the Mellin Food Co., of Boston, describing the constituents and the use of their food preparations. It will be found an instructive guide.—*Medical and Surgical Reporter*.

1. *Vide Phila. Med. News*, vol. xlii., p. 345.

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Cincinnati, September 27, 1884.

Selections.

AN ADDRESS ON CHOLERA AND ITS BACILLUS.

Delivered before the Imperial Health Board at Berlin, by

ROBERT KOCH, M.D.⁽¹⁾

[Before the opening of the sitting, some microscopic preparations were exhibited by Dr. Koch, which will be referred to afterwards. Dr. Koch also explained the method for preparing and carrying out the cultivation of the cholera bacillus.

The preparation takes place in the usual manner. A drop of mucus from the dejecta or from the intestines, is spread on an object glass and dried. The object glass is then drawn three times through the flame of a gas or spirit lamp, sprinkled with a watery solution of fuchsin or methyl-blue, and rinsed after a few seconds, in order to be immediately investigated under the microscope, with the aid of an oil-system, one-twelfth inch, and Abbe's condenser.

Sections from the intestine, which must be hardened in pure alcohol, are best colored in a strong watery solution of methylene blue for twenty-four hours, or by being warmed for a short time and then treated in the usual manner.

The microscopic test alone is sufficient in comparatively few cases for the diagnosis, and generally the following method of cul-

tivation is necessary for proving the presence of the comma-bacilli.

A very small drop of mucus is placed in 10 ccm. of food-gelatine (meat-water-peptone-gelatine, containing 10 per cent of gelatine, and having a weak alkaline reaction) and distributed in it by putting the fluid in motion. Then the liquid gelatine is poured on to a glass plate, which is cooled by ice under it. The gelatine spread out by a sterilized glass rod, speedily congeals. Then the plate is put under a glass receiver, kept damp till the colonies of bacteria develop, and then examined with a Zeiss A. A. eyepiece 4 or a corresponding power.]

Gentlemen: For sanitary measures we require bases of as firm a foundation as possible. It is not only a question of very costly institutions, but of the happiness or misery of many people. This is most especially true of protection from pestilences, in which, it can be said without exaggeration, the most important sanitary efforts are being engaged. We should therefore suppose that, in the struggle with pestilences, people would start from thoroughly established and scientifically elaborated bases; but unhappily this is not everywhere the case, and especially with regard to cholera such a firm basis is wanting. It is true that a host of theories as to the nature of cholera, and its mode of infection and spreading, have been expressed, but the opinions are diametrically opposite. We cannot take them without examination as starting points for measures in combating this plague.

It is asserted, on the one hand, that the cholera is a specific disease originating in India. On the other hand this is disputed, and it is held that cholera can also arise in other countries, and is not dependent on a specific cause. Some hold that cholera is only introduced by the patient and his effects; others say that it can be spread by merchandise, by persons in good health, and by currents of air. Equally contradictory opinions exist as to the importance of drinking-water as a vehicle for conveying the infectious matter, and concerning the influence of the conditions of the soil, and whether or not the infectious matter is contained in the dejecta, and on the duration of incubation. But all these are points of the greatest importance in protection against cholera, and a successful resistance to the disease will not be possible until some unanimity of opinion has been arrived at on

1. Translated from the Deutsche Medizinische Wochenschrift for the *British Medical Journal*.

the fundamental questions of the etiology of cholera.

The etiology of cholera has profited little from the progress of the etiology of other infectious diseases. This progress has developed chiefly in the last ten years, and during this period there has been no opportunity for investigating cholera—at least not in Europe and adjacent countries; and in India, where cholera constantly furnished material for investigation, nobody has been found to occupy himself with this task by applying the new methods of investigation.

Therefore in this respect it was not unfavorable that the cholera broke out last year in Egypt, and that opportunity was thus given for studying the nature and mode of infection of this disease before it arrived on European soil. The opportunity was utilized by various governments, which sent out expeditions to investigate the nature of cholera. I had the honor of superintending one of these expeditions. When I undertook this commission I understood the difficulties of the task. Nothing was as yet known of the infectious matter of cholera. It was not known where to look for it, whether in the intestines, in the blood, or elsewhere. It was not known whether we had to deal in this case also with bacteria, or with fungi, or with animal parasites, as *amœba*. It is true that in this respect there were not as important difficulties met with as in another direction, where I least expected to find them. I had pictured to myself the pathological appearance as pictured in the ordinary text-books, and had supposed that the intestine showed very few modifications, and that it was filled with a fluid resembling rice-water. Hence I was rather surprised when I found something else in the intestine. In the majority of the cases great modifications were to be found, others showed less change, and a few corresponded with the type given in the books. But I had to wait some time, and make several sections, before I succeeded in obtaining a correct conception of the various modifications.

In spite of the most careful investigations of all the other organs and of the blood, no evidence of infectious material was found outside of the intestines.

There were cases in which the lower portion of the small intestine was colored dark brownish red, most intensely just above the ileo-cæcal valve, less so higher up, the mucous membrane being studded with super-

ficial hemorrhages, and in many places superficially necrosed, and covered with diphtheritic coatings. Corresponding to this, the contents of the intestine were not a colorless rice-water fluid, but a bloody stinking fluid.

Other cases showed gradual transitions to less marked modifications, in which the redness was less intense, and finally only in patches; and these were followed by cases in which only the borders of the follicles and Peyer's glands were reddened. This last affords a very characteristic appearance, which does not occur in other affections of the intestines, and is quite peculiar to cholera. In few cases was the mucus membrane little changed. It looked transparent and swollen in the surface layers, and the solitary and Peyer's follicles were more prominent. The whole mucous membrane was slightly rose colored, but there was no capillary hemorrhage. In these cases the contents of the intestine looked colorless, but they by no means always resembled rice-water, but would be better compared to gruel. In very few cases were the contents of the intestines purely watery and mucous, with few flakes.

When we examined the intestine and its contents under the microscope it was seen that, in some cases, especially those in which Peyer's glands were red at the edge, an invasion of bacteria corresponding to this redness had occurred. The following diagram illustrates the appearance as I have already showed you in one of the preparations. The bacteria had partly forced their way into the utricular glands, partly pushed themselves between the epithelium and the basement membrane, thereby lifting the epithelium, as it were. In other parts they forced themselves deeper into the tissues. Then cases were found in which, behind these bacteria, which had a special size and shape, so that one could distinguish them from other bacteria, and devote special attention to them, various other bacteria had forced their way into the utricular glands and the surrounding tissue, e. g., large thick bacilli and thin bacilli. Thereby conditions are produced like those in necrotic diphtheritic changes of the mucous membrane of the intestine, and in typhoid ulcers, where afterward other non-pathogenic bacteria force their way into the tissue rendered necrotic by pathogenic bacteria. We were, therefore, from the very beginning, obliged to look upon these first mentioned

bacteria as important for the cholera-process, whilst everything else gave the impression that it was something secondary; for the bacteria first described always advanced beyond the others, and gave the impression that they smoothed the way for the other bacilli.

Surface of mucous membrane laid bare.

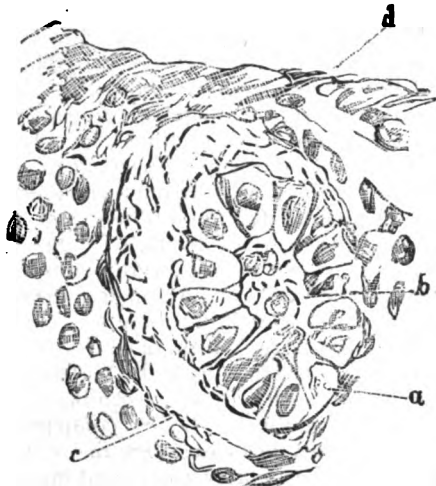


Fig. 1.—Section of the Mucous Membrane of a Cholera-intestine. An utricular gland (*a*) is diagonally cut through. In its interior (*b*) and between the epithelium and basement-membrane (*c*) numerous comma-bacilli. 600 magnifying power.

With regard to the contents of the intestines, at first no clear conception could be formed, as the only cases which came before us for examination were not suitable. Also in these the contents of the intestines were putrid and bloody. There was an enormous quantity of various bacteria in these contents, so that there was no possibility of attending to the real cholera bacilli. Not till I had dissected a couple of acute and uncomplicated cases, in which no hemorrhage had as yet set in, and in which the contents of the intestines had not turned to putrid decomposition, did I recognize that, the purer and fresher the case, the more did a special kind of bacteria prevail in the contents of the intestine, and it was soon clear that these were the same bacteria which I had seen in the mucous membrane. I investigated them in every way in order to establish their special peculiarities, and am able to give the following information regarding them.

These bacteria, which I have called comma-bacilli, on account of their shape, are

smaller than tubercle-bacilli. One scarcely forms a correct idea of the thickness, length and breadth of bacteria by giving their dimensions in numbers. I therefore prefer to compare the dimensions of bacteria with other objects. As the tubercle-bacilli are known to everybody, I compare the cholera bacteria with them. The latter are about half or two thirds as long as the former, but much more bulky, thicker, and slightly curved. The curve is generally not more marked than that of a comma, but sometimes it is larger, becoming semicircular, as in the adjoining figures (2 and 3). In other cases the curve is doubled, one comma is attached to another, but in an opposite di-

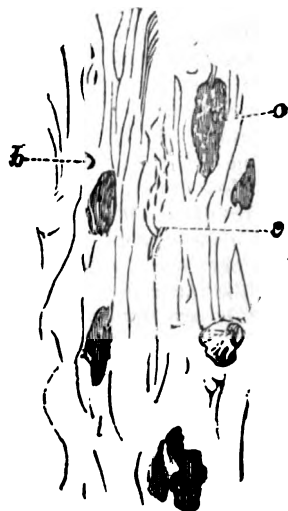


Fig. 2.—Object-glass preparation from the contents of a Cholera-intestine. Core of the Necrotised Epithelia (*a*). Semicircular Comma-bacillus (*b*). Specially characteristic grouping of Comma-bacilli (*c*) 600 magnifying power.

rection, so that it forms the shape of S. I think that in both cases two individual ones after being divided have remained stuck together, and give the appearance of a more marked curve. But in artificial cultivations another remarkable form of development of the comma-bacillus is to be observed also.

The comma-bacilli frequently grow in threads of longer or shorter length. In one of the preparations, shown in the following diagram, several of these forms can be seen (fig. 4).

But they do not form straight threads like other bacilli, for instance, anthrax bacilli, or, as it appears in the picture, simple

wavy threads, but very long tender spirals, which as far as their length and the rest of their appearance is concerned, bear the closest resemblance to the spirochætæ of relapsing fever. I could not distinguish one from the other if they were side by side. I am inclined to the view that the comma-bacillus is not a genuine bacillus, but that it is a transition form between the bacillus and spirillum. Perhaps we have to deal with a genuine spirillum, of which we have

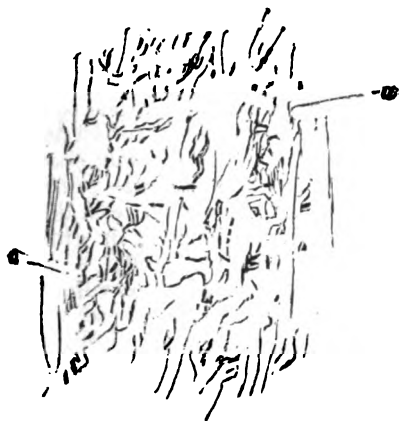


Fig. 3.—Object-glass preparation. Cholera-dejecta on Damp Linen (two days old). Great multiplication of Comma-bacilli, amongst which some S-shaped (a). 600 magnifying power.

fragment before us. It is seen in other spirilla that very short specimens do not form the complete thread of a screw, but consist of a short staff, which is more or less curved.

The comma bacilli can be cultivated in meat broth. They grow in this liquid very quickly, and in great numbers; and this property can be utilized for studying their other qualities, by examining with a strong magnifying power, a drop of the meat broth cultivation. It is then seen easily that the comma-bacilli move in a very lively manner. When they are collected together at the edge of the drop, and are moving about amongst one another like a swarm of dancing midges, and those long spiral threads also appear moving in an animated manner, so that the whole affords a strange and extremely characteristic picture.

But the comma-bacilli also grow in other liquids, and especially speedily and in great abundance in milk. They do not curdle the milk, and do not precipitate the casein, which many other bacteria raised in milk

do. Hence the milk looks quite unchanged. But if you examine it under the microscope, it teems with comma-bacilli. They grow very quickly, and in great numbers in the serum of the blood and in food-gelatine. This gelatine can serve for facilitating and securing the discovery of the comma-bacillus; for the colonies of the bacilli assume, in the gelatine a most characteristic and definite form, which so far as my experience goes, no other kind of bacteria assumes in like manner. The colony looks, when it is very young, like a very pale and tiny drop (Fig. 4), which is however not quite circular, the shape generally assumed by these colonies in gelatine; but it has a more or less irregularly bordered, hollowed out, in parts also rough and jagged, shape. It also has a granular appearance at an early period, and is not of such regular character as other colonies of bacteria.

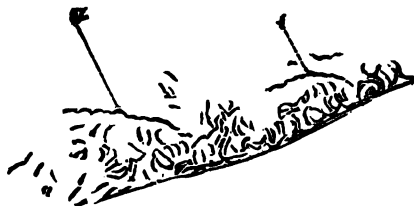


Fig. 4.—Object-glass preparation. From the edge of a drop of Meat-broth, with pure-culture of Comma-bacilli. Long screw-shaped Threads (a). 600 magnifying power.

When the colony becomes somewhat larger, this granulation becomes more and more evident. At last it looks like a heap of strongly refracting granules. I might best compare the appearance of such a colony with that of a little heap of pieces of glass. As they grow, the gelatine liquefies in the immediate neighborhood of the bacteria colony, which sinks down deeper into the mass of gelatine. A funnel-shaped cavity is thus formed in the gelatine, in the midst of which the colony is seen as a whitish point (as seen in the diagram). This appearance is also quite peculiar; it is seen, at least in this manner, in very few other varieties of bacteria, and never so marked as with the comma-bacilli. The sinking of the colonies can best be observed when carrying out an artificial cultivation. A suitable colony is selected on the gelatine plate under moderate magnifying power; touched by a platinum wire previously heated; the bacilli are transferred by the wire to the wire in a test tube of gelatine, and this is

closed with sterilized wadding. A cultivation of this kind then grows in the same manner as the colony on the gelatine plate. I am in possession of a numerous collection of artificial cultivations of bacteria made in this manner, but I have never seen in their cases such changes as the comma-bacilli cause after being transferred to gelatine. Here also, as soon as the cultivation begins to develop, you see a little funnel at the place where inoculation took place (see the diagram). By degrees the gelatine liquefies in the neighborhood of this point of inoculation; then the little colony is plainly seen, extending more and more; but a deep spot, sunken in, always remains, which, in the partly liquefied gelatine, looks as if an air bubble were hovering over the colony. It almost gives the impression that the bacilli not only caused a liquefaction of the gelatine, but also a speedy evaporation of the liquid thus formed. We know a number of other bacteria, which, in the same manner, liquefy the gelatine in test tubes, starting from the point of inoculation. But in these cases there is never such a cavity, nor this bubble-like hollow space. The liquefaction of the gelatine, starting from a single isolated colony, the best way of observing it in a layer of gelatine, which is spread out on the glass-plate, never spreads very wide. The dimension of the liquefied district of a colony may be estimated at one millimetre. Other kinds of bacteria can liquefy the gelatine to a much greater extent, so that a colony attains a size of one centimetre in diameter, and more. In the cultivations of comma-bacilli in test tubes, the liquefaction of the gelatine extends very slowly, and continues in such a manner that after about a week the whole contents of the test tube have become liquid. Unimportant as these qualities seem in themselves, special weight is to be laid on them, because they serve to distinguish comma-bacilli.

Comma-bacilli can also be cultivated in Ceylon moss (*agar agar*) to which meat broth and pepton are added. This agar agar jelly is not liquefied. They can also be raised on boiled potatoes—a fact which is very important for certain questions. On potatoes they grow exactly like the bacteria of glanders, which forms a thin pulpy coat of a brown color on the potatoes.

Comma bacilli flourish best at temperatures between 30° and 40° Cent. (86° to 104° Fahr.), but they are not susceptible to

lower temperatures. Experiments have been made on this point which show that they can grow very well at 17° Cent. tho' more slowly. Below 17° Cent. the growth is very small, and seems to cease below 16°. In this point the comma bacilli remarkably resemble anthrax bacilli, which have also this minimum temperature as the limit of their growth power.

Once I made an experiment to test the influence of lower temperatures on comma bacilli, and to see if they were not, at a very low temperature, not only hindered in their development, but also if they can not possibly be killed. For this purpose an artificial cultivation was exposed for an hour to a temperature of 10° Cent. below zero; during this time it was completely frozen. When part of it was put into the gelatine, there was not the least difference visible in the development or growth, so that they bear frost very well.

It is not the same with the withdrawal of air and oxygen. They cease to grow, when deprived of air, and accordingly belong, if the division into aerobic and anaerobic bacteria be held as good, to the aerobic class. Anyone can convince himself of this very simply by laying a piece of talc or mica over the glass plate when the artificial cultivation has been placed on it in liquid gelatine, and when the gelatine is beginning to stiffen; the talc or mica must be as thin as possible, and must cover at least one-third of the gelatine surface in the middle. The piece of mica, owing to its elasticity, adheres completely to the portion of the gelatine covered, and thus shuts off the air. Then, as soon as the development of the colonies follows, it is seen that the development only takes place where the gelatine is not covered, and only a trifle, about two millimetres, under the mica plate, up to which point the mica has been able to force its way. But under the mica plate itself, nothing grows. Extremely small colonies, invisible to the naked eye, do, it is true appear, which probably owe their origin to the oxygen existing in the gelatine, but they do not increase in size afterward.

An experiment was made in another manner. Little glasses containing food gelatine which had been inoculated with comma bacilli, were placed under an air pump, and others prepared in a similar manner were kept outside the air pump. It was seen that those inside the air pump did

not grow, but only those outside it. But when those that had been in the air pump were placed again in the air, they began to grow. The same occurs when the cultivations were brought into an atmosphere of carbonic acid. While the cultivations that have been kept for comparison outside the carbonic acid atmosphere grow in the usual manner, those that are in a stream of carbolic acid remain undeveloped. But in this case also they do not die, for, after having been for some time in the carbonic acid atmosphere, they begin to grow immediately after they have come out of it.

On the whole, comma bacilli, as I have repeatedly observed, grow extremely rapidly. Their vegetation very speedily reaches a maximum at which it only remains stationary for a short time, then diminishing again very speedily. The comma bacilli when wasting away, lose their shape, they appear at one time shriveled, at another time swollen, and in this state they are not at all or only slightly susceptible to color.

The peculiar conditions of the vegetation of comma bacilla can best be observed by bringing substances which are rich in comma bacilli, but also contain other bacteria, e.g., the contents of a cholera-intestine, or cholera-dejecta in contact with moist earth, or by spreading the substance out on linen and keeping the surface in a damp condition. Comma bacilli then increase in a very short time, e.g., in an extraordinary manner in twenty-four hours. Other bacteria that exist with them are at first stifled by the comma bacilli, a natural pure culture is formed, and on examining with the microscope the mass that is taken from the surface of the damp earth or linen, preparations can be obtained which show almost exclusively comma bacilli. Such a preparation is the following, which comes from the damp linen of a cholera patient, polluted with his dejecta. (Fig. 5.)

But this luxuriant growth of comma bacilli does not last long. After two or three days they begin to die off, and other bacteria then increase. The conditions become the same as in the intestine itself; there also a rapid multiplication takes place but when the real vegetation period, which lasts only a short time, is over, and especially when exudation of blood takes place into the intestine, the comma bacilli disappear, and the other bacilli, especially putrefaction bacteria, commence to develop in

their room. I am, therefore, almost inclined to believe that if the comma bacilli were brought at once into putrefied liquid which contained a great deal of the products of vital changes of other bacteria, and especially, of putrefaction bacteria, they would not come to development but would soon die off.



Fig. 5.—Colonies of Comma-bacilli on the gelatine-Plate. (a) Youngest Colonies. (b) After liquefying the Gelatine. 80 magnifying power.

Fig. 6.—Funnel-shaped Sinking in the Gelatine at the Inoculation-point in the Test-tube.

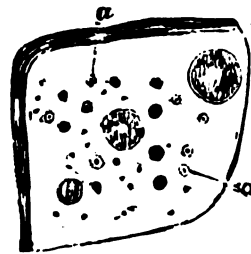


Fig. 7.—Natural Size of the Colonies as they appear on the Gelatine-Plate.

But so far sufficient experiments have not been made on this point; this is only a supposition which I make, supported by my experiments with other bacteria cultivations. This point is a matter of importance, because it is not a matter of indifference whether the comma bacilli, when they come into a sink, find a good or very bad soil for reproduction. In the first case they would multiply, and would have to be destroyed by methods of disinfection; but in the latter case they would die off, and

there would be no necessity for disinfection. I am inclined to hold the latter view, as borne out by all the experience I have so far had:

The comma-bacilli flourish best in liquids which do not contain too small a quantity of nutritive matters. Several experiments have been made on this point. Dilutions of meat-broth with an alkaline reaction were prepared, and a quantity of comma-bacilli were placed in them. In one of these experiments, the meat broth, after a five-fold dilution, proved to be no longer a nutritive solution. Of course, these experiments must be repeated, and be made in a more extensive manner, in order to find a definite and fixed limit; but, in any case, it can be seen from these results that one must not dilute too much, and that comma-bacilli require a certain concentration of nutritive substance in which to grow.

In these cultivation-experiments, it was further seen that the nutritive substances—at least, the gelatine and meat-broth—must not be acid. As soon as the gelatine shows only a trace of acid reaction, the growth of the comma-bacilli is very stunted. If the reaction be in a marked degree acid, the development of the bacilli completely ceases. It is at the same time noteworthy that it is not all acids that seem to be unfavorable to the comma-bacillus; for the surface of a boiled potato, where it is cut, is known to have an acid reaction, in consequence, if I am not mistaken, of its containing malic acid. Nevertheless, comma-bacilli grow very luxuriantly on potatoes. Hence, one cannot say, straight off, that all acids hinder the growth; but, in any case, there are a number of acids which have this effect. In meat-broth it is probably lactic acid, or an acid phosphate.

As the influence of substances that prevent the development of the growth of the comma-bacilli is one of no small interest, a number of other substances have been examined with regard to this point. I must observe here that the prevention of development does not imply disinfection. In these experiments, it is only intended to determine that amount of substance which is sufficient to hinder the growth of the bacteria. But with this the bacteria are by no means killed outright, as should be done in disinfection. We had experienced something similar in the experiments on the influence of carbonic acid on comma-bacilli, in which also the growth was re-

strained only as long as the carbonic acid was allowed to operate. The same holds for the statement which I now lay before you.

Iodine is known to have been characterized by Davaine as a very intense poison for bacteria, and, under certain circumstances, correctly so. Davaine made his experiments by diluting, to a very great extent, a liquid containing anthrax-bacilli, *e. g.*, anthrax-blood, to such an extent, that he finally had nothing but pure water, in which very few anthrax-bacilli were suspended. He added some iodine to this liquid, and then it was seen that the anthrax-bacilli were killed by an extremely small quantity of iodine; but in practice the conditions are quite the reverse. We never have to stop the development of infectious matters in pure water, but in the alkaline contents of the intestines, or in the juices of the tissues, and the iodine does not remain free in these, but combines at once with the alkalies. The investigation of the influence of iodine on the comma-bacilli was made by adding iodine-water to meat-broth, which was just suitable as a nutritive liquid. Iodine dissolves in water in the proportion of about 1 in 4,000. One cubic centimetre of this iodine-water was mixed with ten cubic centimetres of meat-broth, but this did not hinder the growth of the bacilli in the least: the limit at which iodine prevents the bacilli from developing must, therefore, lie far below the amount used in the experiment. But it seem to be unnecessary to make any more experiments on this point, as, in practice, larger quantities of iodine than this cannot be given.

Alcohol stops the development of comma-bacilli only when one part is added to ten parts of a nutritive fluid, *i. e.*, in the proportion of ten per cent. This is a concentration which also cannot be practically utilized.

Common salt was used in the proportion of two per cent. without the growth of the comma-bacilli being hindered.

Sulphate of iron only hinders the growth when two per cent, is added to the nutritive fluid. In regard to this substance, which is very much used for purposes of disinfection in times of cholera, I venture to remind you that a proportion of two per cent. is necessary before it acts as a preventive to development. The comma-bacilli are not yet killed by the sulphate of iron in

this concentration. The property which sulphate of iron has, of hindering the development of the bacilli is, perhaps, thus explained. The peptone and albuminates of the nutritive solution, which serves as food for the bacteria, are driven out; for, by adding two per cent. of sulphate of iron, an abundant precipitate is formed in the nutritive solution. Possibly, also, the acid reaction that takes place has a checking effect on the growth. Accordingly, this substance seems not to possess any specific effect on the bacteria, and certainly not to be a real material for killing or disinfection. I consider it indeed possible that, with such a substance, exactly the opposite of what is intended may be obtained. Given the case that the contents of a cesspool had to be disinfected, in which it was known that comma-bacilli had found their way; according to my view, the process of putrefaction is thereby arrested, nothing else is obtained but cessation of the growth of the bacteria and the comma-bacilli. The bacteria are by no means killed by this method; and, as for the comma-bacilli, they are removed from the influence of the putrefaction-bacteria which are injurious to them, and are preserved instead of destroyed.

This example is a very good one to show that the substances for disinfection must be correctly judged and examined precisely on this point, and that we have to distinguish between what only arrests putrefaction, and what really kills bacteria. The former may very possibly serve as a means of preserving infectious matters.

I will only mention the limit of the power other substances possess of arresting the development: alum, 1:100; camphor, 1:300. I had expected a stronger effect from camphor, but several careful experiments have shown that this substance possesses only a very slight influence on comma-bacilli. Carbolic acid, 1:400. This figure nearly agrees with what we know of the influence of carbolic acid on other bacteria. Peppermint oil, 1:2,000. Sulphate of copper, 1:2,500. This substance has a very powerful effect. But if we want to calculate how much sulphate of copper must be given in order to check the growth of the bacilli in the intestinal canal, we should arrive at quantities which could not be given to a human being. Quinine, 1:5,00; and corrosive sublimate, which is here again seen to exceed all other substances in power, 1:100,000.

In these experiments on the influence of substances for arresting the development of comma-bacilli, the striking fact was evident that comma-bacilli die off extremely easily when dried. These experiments were made by letting a very small drop of a substance containing bacilli dry on an object-glass, and a large supply of these object-glasses were immediately prepared for a series of experiments. A drop of the liquid which was to be examined was then placed upon such an object-glass, and left for development in the hollow object-holder. Having proceeded in this manner, in no single preparation did anything grow that had received meat-broth as nutritive fluid, nor in a striking manner in the test-preparations either. At first I did not know what caused the absence of growth, and thought that the broth must be the cause of it, for I had never met with anything like this before in the case of other bacteria. For instance, anthrax-bacilli can be kept in store for a long time dry on object-glasses; they retain vitality from half a week to nearly a whole week in this manner. As, however, the meat-broth on examination proved to be unexceptionable, we had to examine whether the comma-bacilli had not probably died off owing to being dried upon the object-glass. In order to obtain certainty on this point the following experiment was made: A number of object-glasses were provided with a small drop of substance containing bacilli. The drop dried up in a few minutes. One object-glass was now diluted with a drop of meat broth after an interval of a quarter of an hour, another after an interval of an hour, and so on. Then it was seen (and I made several series of experiments) that the comma-bacilli did come to development on the dried glass-plates that had laid a quarter, a half, and a whole hour, but after two hours they sometimes died off; after three hours, I could not keep the bacilli alive in these experiments. Only when compact masses of bacilli-cultivations—for instance when the pappy substance of a cultivation made on potatoes was dried—did the bacilli retain vitality for a longer time; clearly because in this case complete desiccation followed much later. But, also, under these conditions I have never succeeded in preserving the bacilli alive in a dried state longer than twenty-four hours.

This result was in so far important, as by its means it could easily be tested whether

the bacteria have a permanent state. We know that other pathogenic bacteria—for example, anthrax-bacteria, which form spores, can be preserved for years in a dry state on an object glass without their dying. We know also of other infectious substances, with whose nature we are not accurately acquainted, for example, the infectious matters of small-pox and of vaccine, which can be kept in a dried state for several years, still retaining their power of infection. If now the comma-bacilli, which, as such, are unexceptionally speedily killed by drying, pass into a lasting condition under some circumstances, that would be very soon shown during the process of drying.

This is anyhow one of the most important questions for the etiology of an infectious disease, and especially so for cholera. The investigation of this point has therefore been made in the most careful manner possible, and in every possible manner, and I hardly think that anything more can be done on this point. Above all cholera-dejecta and the contents of the intestines of cholera-corpses were left in a damp condition on linen, in order that the comma-bacilli might develop under the most favorable circumstances. After certain intervals of time, pieces of the linen were dried, for example, after twenty-four hours, after a few days, after several weeks, to see if, during this period, any condition of permanence had been established. For infection through cholera-linen affords the only undisputed example of an effectual infectious substance, which adheres to a special object. If there were a permanent state to be found anywhere, it must have been found on cholera-linen.

But in none of these cases was a permanent state discovered. When the dried things were examined, it was seen that the comma-bacilli had died off. Then, further, the dejecta were placed in earth, being either mixed with earth or spread on the surface, which was either kept dry or moist; they were mixed with marsh-water, and were also left to decay without anything being added to them. In gelatine-cultivations, the comma-bacilli have been cultivated up to six weeks, also in serum of blood, in milk, on potatoes, on which anthrax-bacilli are known to form spores extremely rapidly and in great abundance. But we have never obtained a permanent state of comma-bacilli. As we know that the majority of bacilli have a permanent

state, this result must appear very striking. But I will remind you here, what I mentioned before, that we have probably to deal with a micro-organism here, which is not a genuine bacillus at all, but is more allied to the group of screw-shaped bacteria spirilla; but we do not know of any permanent state of spirilla as yet. Spirilla are bacteria which depend for their existence exclusively on liquids, and do not, like anthrax-bacilli, vegetate under certain conditions in which they have for once to endure a dry state. It, therefore, seems to me, as far, at least, as my experience goes, that there is no prospect of finding a permanent state, of comma-bacilli. I shall later on explain that the absence of a permanent state perfectly coincides with the experiences of the etiology of cholera.

[To be continued.]

ABUSE OF MEDICINES.—Dr. R. H. Gunning tells us, in the *Edinburg Medical Journal*, June, 1884, that he believes strongly in the proper use of medicines, as anodynes, emetics, purgatives, diaphoretics, diuretics, etc., but he is also sure of much abuse of them. In 1884, while attending a provincial infirmary, he was struck with the recovery of a patient given up to die. The medicines, especially mercury, iodine, and iodides, would be suspended, and the nurse have orders to treat the patient kindly before dying. Immediately recovery would occur! This impressed him, and ever since in practice he has studied whether medicine was doing good or harm. He always held, and still holds, that homeopathy is chiefly the non-abuse of medicines. In the time of Dr. Black and Professor Henderson, of Edinburg, when this question was once publicly discussed, he challenged its advocates to try 100 cases without medicine and 100 cases treated *secundum artem* against 100 cases treated homeopathically. He affirmed that, in the first case, the result would be as good as in their 100 cases, and that in the second mode there would be more success. The challenge was not taken up.

In Brazil his success was in cases treated by others. He merely suspended medicines, and put the patient upon hygiene, science, and common sense, correcting ignorance, neglect, and bad habits as to food, air, exercise, baths, etc. His success in chronic cases was great, and people declared he must have used medicines, and very strong

ones, too, for he could not have made such cures otherwise! Some selected cases further on, will be examples of this abuse of medicine, of diet, and of horizontal position.

Emetics, purgatives, anodynes, etc., relieve symptoms, but do not go to the root of the matter—error in diet, dress, habits, ventilation, etc. As symptoms recur they have to be repeated. This was the English system of “dose and cure” of the glutton or the beer-swigger, only to “dose and cure” him again. The pills, potions, and powders were the general practitioner’s chief income, more than from *honorariums*. But homeopathy, with its metaphysics and paradoxical wonders, and hydropathy, with its hygiene and appropriated science, have done much to correct this abuse of drugs.

Mercury is a good medicine, in its place and in careful quantity, as is iodide of potassium. They will destroy abnormal exudations or organization, and the germs of syphilitic taint, but carried beyond this object they will debilitate and destroy the body itself. Quinine is a good tonic and specific, but in large doses it is pernicious. And why in big doses, if small ones will answer? What deafness and loss of sight has it not caused? He has known a child to be made deaf and dumb with one large dose. He has seen delicate patients take fifty grains in a day and succumb, whose stamina were not equal to ten grains. Small repeated doses can do all, he believes, that large doses do, without doing the mischief.

At first when yellow fever appeared in Rio, the deaths were few when an emetic or castor oil were given early, and the case was left to careful nursing. Since then, and now, a large part of the mortality is from so-called scientific or guessing and heroic treatment.

He concludes by mentioning some cases which will show the influence of these four circumstances, namely, diet, position, hot water, and suppression of drugs.

1. A young slave woman had a chronic ulcer on the shin, of seven year’s standing. Various doctors had been consulted. Iodide of potassium and calomel were used in succession until most of her teeth were lost, in the belief that she had a syphilitic taint. Caustics and ointments were used externally. The ulcer looked hardened and desperate, and he concluded that,

besides the irritating effect of the said medicines, externally and internally, the limb had not had due rest. He simply suspended the medicines, ordered a linseed poultice to keep soft the ulcer, and had her strictly confined to bed. In six weeks, more or less, her health was better, and the ulcer was cicatrized. Here the health was improved, no doubt, from the suppression of medicines, but the cure of the ulcer was mainly due to diminishing congestion. In short, she had been previously treated without due attention to position, etc.

2. Next, a gentleman consulted him about a large ulcer on the anterior part of the thigh, of thirteen year’s standing. The whole limb was swollen and anasarcaous. He had been the round of the doctors within a large circle. He thought the ulcer had been treated without due attention to position, and declared he would not treat him without a solemn promise that he would keep absolutely in bed. He started him with a comp. powder of jalap to assist the riddance of the anasarca, and to convince him he was using medicine, for medicine they must have. And, without more than a linseed poultice, diminished diet, and horizontal position, he was well in a couple of months or so. He saw him ten years afterwards, quite well.

He gives another case. A vicar, looked upon as a saint far and near, had a pimple on the upper part of his penis, behind the gland. His brother-in-law, licensed in Italy, treated him. Caustic was applied, but only inflamed the part more. Then they assumed that it had a syphilitic taint, and gave him mercury till the gums and all his bones were sore. The caustic was continued, and resulted in a subcutaneous fistula. Into this yellow wash was injected, and sloughs came away. The membrane got immensely enlarged, and also the glands of the groins. Then it was called cancer, and no hope of a cure could be given by them. An English doctor was called in. When he saw the sick man, he thought him poisoned with mercury and iodide of potassium internally, and externally by yellow wash. He did away with all, had warm flannels got, and a soft mattress to keep him warm instead of his hard bed and charcoal fire, filling the room with carbonic acid. He gave him a very warm bath with his own hands. He injected warm water instead of yellow wash. The sloughing ceased, and the fistula closed,

and the swelling everywhere diminished. In less than two months he was saying mass in the parish church, and the cure was regarded as a miracle.

A large part of this cure was the suppression of irritating, poisoning drugs; but the hot water, and strict lying position, were all great factors in the result.

These are illustrations of what position, the non use of drugs, and the use of warm water and diet, do in medical cases. He gives a recent case, if not of the abuse of medicine, at least of its non-usefulness.

All know how the great statesman of the age (Gladstone) has suffered from gastritis and torturing gastrodynia. The routine of mere scientific prescriptions could do nothing for him. At length, in the hands of Dr. Schweninger, of Munich, he has been fortunate. This gentleman has discerned the case better, and enforced strict diet and a general change of regimen; and the great chancellor is again well and at work.

In conclusion more attention should be given to hygiene, and less trust put in drugs.—*Medical and Surgical Reporter.*

THE VELOCITY OF THE PULSE WAVE.—The "velocity of the pulse wave" has been the subject of investigation by many continental physiologists, and the general result of their experiments has been to show that the speed with which it travels is about 20 feet per second; and it is further known that the rapidity of its progress is essentially dependent upon the rigidity of the tubes through which it travels—so that, for example, it is swifter in the lower extremity than in the upper, owing to the greater firmness of the walls of the femoral as compared with the axillary arteries and their continuations. But little has been done to determine the effects of other conditions modifying the speed of the pulse wave. This hiatus has recently, however, been in part filled by the publication of an important series of experiments on pulse wave velocity by Dr. A. T. Keyt, of Cincinnati, who has employed an instrument which possesses this advantage over that devised by Marey, that the tubes by which the simultaneous inscriptions are conducted are filled with water instead of air. He first set himself to determine the precise influence of tubes of different degrees of stiffness or elasticity on the velocity of the liquid waves sent along their interior, and selected for this purpose, first a glass tube,

then rubber tubes of varying strength and firmness of wall, then tubes made of chicken-gut, and finally the aorta of a calf. These experiments demonstrated that the velocity of liquid waves in elastic tubes is proportional directly to the stiffness and inversely to the elasticity of the tube traversed; and, as bearing on the rate of pulse propagation in living arteries, they indicate the important modifying influence which the state of the arterial walls as to stiffness or elasticity must exert upon the same, for whilst with a glass tube three-sixteenths of an inch bore and 6 feet in length the wave velocity was 216 feet per second; with firm rubber tube it was 165 feet; with a softer and more yielding tube of the same bore and length it was 72 feet; with a still thinner tube, 51 feet; with a similar soft tube steeped in gasoline, and thus rendered still more supple, 31 feet; with a tube made of rubber cloth, 28 feet; with chicken-gut, 16 feet; and with a calf's aorta, 12.75 feet. A second series of experiments were made to determine whether the velocity of liquid waves in the interior of elastic tubes is modified by the mode of impulsion, and it was somewhat unexpectedly found that the rate of pulse propagation is not modified directly by the manner of the heart's action, whether it beats quickly, launching a sharp wave, or slowly, sending a sloping wave. In either case the pulse wave velocity along the arteries is alike. A further successive series of experiments showed that, other things being equal, the pulse wave travels more slowly along large, and faster along small arteries; also that mere distance from the heart neither accelerates nor retards the velocity of the beginnings of pulse waves, whilst the modifying influence of different pressures is small at most, and requires for development considerable difference of pressure in tubes very soft and elastic. All the experiments hitherto noted were made with the fluid in the tubes at rest, except in so far as a certain quantity was injected into the tube at each impulsion of the pump. But it seemed important to determine whether any change was effected in the rapidity of the pulse wave when the fluid was moving more or less rapidly; and by making a slight change in the arrangement of the apparatus it was ascertained that liquid waves travel along elastic tubes with the same speed, whether the liquid be at rest or freely flowing. Hence Dr. Keyt

concludes that, whether the blood in the arteries flows fast or slow, the velocity of the pulse wave is not affected. The effects of branching of the tube appeared to be negative, and the consistence of the fluid seemed also to make no difference in the velocity of the wave, a result that certainly would not have been anticipated. It was found, for example, that the wave was not propagated with greater rapidity in water than in a solution of starch as thick as would flow through the tubes; hence, whether the blood, be dense or watery, the pulse wave velocity is identical. Great obstruction of the tube was found to delay the propagation of the wave, the delay occurring at the point of obstruction, and is not caused by lessening of the rate of transmission below. Lastly, the distal wave is delayed by communication with an elastic pouch more easily distensible than the tube, whilst, if pouch and tube are nearly equally yielding, there is no increased delay. We have not space to follow Dr. Keyt in his observations on pulse wave velocity in the living subject, nor on the pre-sphygmie interval, but desire to recommend his essay to all those who are engaged in the study of physiology, as containing many facts and suggestions which have an important bearing on the study of the pulse in health and disease.—*London Lancet.*

CARE OF THE LOWER LIMBS AND FEET.
— C. H. Hughes, M.D. St. Louis, in the *Weekly Medical Review*.

The effect of surface impressions in certain organs, such as the brain and spinal cord, are quite familiar to physiologists and physicians, and the fact of "taking cold," as it is called (especially in the head), from damp feet and exposure, is well known, but the philosophy of it is not so generally understood, and by most people the importance of the subject is not fully appreciated.

M. Animus, a distinguished French physician and physiological experimenter, observed that on electrizing the great sciatic nerve, (!) certain interesting changes took place in the brain by which sleep was in-

duced. Excitation of this great nerve, or of its terminal branches in the feet, by electricity, also influences the general circulation and blood pressure in the human subject, and if the ears of a rabbit are examined during a like electrical excitation of the sciatic nerves, their circulation will be found to have sensibly changed.

A certain nervous mechanism, too, exists at the back part of the neck, called the cervical sympathetic ganglia, which exerts a controlling influence on the circulation of blood within the brain. But the discussion of the latter nervous arrangement is not specially relevant to our present subject.

This curious fact of the electrical excitation of the cervical sympathetic is, however, duly considered by physicians specially skilled in the nervous system, in the treatment of certain diseases of the brain, just as the influence of sciatic excitation is taken advantage of to control conditions of the circulation in the brain.

They are also of advantage from a hygienic or health-preserving point of view. A draught of air striking the back part of the neck is especially liable to cause a cold in the head, but a cold and damp draught of air coming in contact with the lower part of the spine, the thighs, hips, calves of the legs or soles of the feet, especially endangers the taking of cold in the head or throat.

Certain grave affections of the spinal cord or brain, of a paralytic character, too, are often caused by prolonged exposure to cold and wet combined. The spinal cord or brain may become congested in consequence of their unfavorable peripheral impressions, and the state called sclerosis or hardening takes place. If this takes place in a certain part of the spinal cord, the condition known as locomotor ataxia, an almost incurable affection, occurs.

The practical hygienic or health preserving deduction from this great fact, that peripheral or surface impressions influence the central parts of the nervous system and through it the various internal organs, is to keep the surface temperature equable, and the feet especially free from violent impressions of wet and cold. The feet should be kept warm because they are prone to get cold easily; the head should be kept moderately cool, because being near the heart and better supplied with arterial blood than any other part of the body, it is

1. The chief nerve of the thigh and leg, and largest nerve of the body, which arises from the lower part of the spinal cord between the two lumbar and three or four sacral vertebra or back bones, the outer and back part of the thigh to be divided into the principal nerves of the leg and foot and passes down.

especially liable to get overheated, and to be easily affected by atmospheric conditions, both through its circulation—controlling the nervous system in the neck and feet.

The baring of the calves of children's legs, or clothing their feet too lightly in inclement weather is dangerous and wrong. Naturally the long back hair of children, which is seldom interfered with by fashion, protects the sensitive back part of the neck, but the follies of fashion have not always justly regarded their tender little limbs and feet.

The fact of peripheral impression is also intimately associated with the interesting phenomena of reflex irritation. A surface impression distant from a central part excites changes in the nerve centre, and a certain expression usually in action. The acts of swallowing, laughing and sneezing are of this character. An impression is made at the extremity of certain fibres of a nerve (called afferent) and transmitted to its central termination. The response immediately comes back in a swallow, a laugh or a sneeze, through other nerve fibres (efferent) because of the effect elaborated at the central end of the nerve and transmitted outward.

A certain change takes place, just as it does in neuralgia, or where the limb is diseased, and the change may remain after the nerve is cut or the limb taken off. This fact explains why the sensations sometimes persist when these parts have been severed, and a person, for instance, may feel that his foot hurts after it has been buried, or that the stump of a limb pains after the diseased part has been removed. In these instances central disease has been set up by transmitted peripheral irritation from the affected limb. The secondary disease in the spinal cord is not removed at once by the removal of its original source in the amputated limb.

This fact of the effect of peripheral irritation upon central conditions is also important for the consideration of those persons who, thinking to be their own physicians, resort thoughtlessly to what is called medicinal massage or the vibratory motion cure, a remedy which, unskillfully or injudiciously used, is capable of doing great harm to those delicate nervous centres, which are so sensitive to violent peripheral impressions. Neither the criterion of one's own feeling as to the agreeableness of the treatment nor the advice of a proprietor of

a movement cure, unless he be a reputable physician, thoroughly versed in the nervous system, is a safe "guide to health" in this matter. The great sciatic nerve has been stretched with benefit, and its stretching has also resulted in the death of the patient from inflammation of the nerve and spinal cord.—*Weekly Med. Review.*

ANTIPYRINE.—The new antipyretic alkaloid, has lately been subjected to a thorough investigation by Dr. della Cella, at Professor Marigliano's clinic (*Italia Medica; Bull. gén. de therap.*), and the following facts were noted:

Antipyrine presents itself in the form of prismatic crystals, very soluble in water and in alcohol, but insoluble in ether. Its solutions are of neutral reaction. With sulphuric acid it forms a salt soluble in water and in alcohol, but insoluble in ether. Crystallized antipyrine detonates violently when heated with concentrated nitric acid; heated gently with caustic potash, it assumes a reddish color. With oxidizing agents, in the presence of water and heat, it is decomposed into various products, among which derivatives of phenol and of acetone seems to predominate. Its aqueous solution and that of its salts present the following reaction:

With chromic acid an orange-yellow precipitate is formed, which becomes liquid with heat.

With hypobromide of sodium it forms a white precipitate; on being heated, this becomes yellowish, and little brown drops are seen to separate, having an empyreumatic odor.

With Millon's reagent there is a yellow precipitate.

With perchloride of iron an intense red color is developed; the liquid is decolorized by impure hydrochloric acid.

With iodized iodide of potassium there is an obscure red precipitate.

With iodide of potassium and mercury a white precipitate is thrown down.

With iodide of potassium and bismuth there is a yellow precipitate verging on orange.

With tannic acid the precipitate is white.

With picric acid it is yellow.

Chlorine water causes no change of color, but, if a current of chlorine is made to pass into an aqueous solution of antipyrine, a solid white substance is seen to separate. Of all these reagents, the most

sensitive is iodized iodide of potassium, which gives a reaction with a 1-5,000 solution of antipyrine.

To detect antipyrine in the urine, the latter must first be acidulated with sulphuric acid, in the proportion of about 5 drops to 6 c. cm. of urine, the proportion of the acid being larger if the urine is alkaline. If the mixture becomes turbid, it is to be filtered, and ten drops of the iodic reagent should be added. This reaction, however, will be more or less marked, according to the time at which the urine has been passed: three hours after the administration of the drug, the reaction is present, but slight; in four hours it is very marked; in twenty-four hours it is still very decided; and in thirty-six hours it is yet perceptible. Sometimes it disappears after four hours, but to return subsequently.

Experiments were made by Dr. Queirolo, an assistant at the clinic, on the general action of the drug and its influence on the arterial pressure and the caliber of the vessels. Antipyrine was given to persons free from fever and to others having fever, to the amount of from 4 to 6 grammes in the course of from an hour to three hours, with the following results:

1. It gives rise to no appreciable general phenomena, although sometimes, in excitable individuals, particularly women, some vomiting is produced.

2. The frequency of the respiratory movement is not affected.

3. The frequency of the pulse is always diminished.

4. The arterial pressure, measured with Baasch's apparatus, is either unaffected or a little increased.

5. The normal temperature is not disturbed.

6. In persons free from fever a very slight dilatation of the cutaneous vessels is produced; in those with fever this dilatation is more marked; it precedes the lowering of the temperature. These researches were made by means of Mosso's plethysmograph.

Its action upon fever, as observed by Dr. Ampugnani, also an assistant at the clinic, is as follows:

1. When 50 centigrammes are given at once, there is generally a lowering of 2 or 3 tenths of a degree [? centigrade] in the course of two hours, but this does not last.

2. When a gramme is given at a dose, in

the majority of cases the depression begins in an hour, and increases for five or six hours, reaching as much as 3°.

3. If a gramme and a half is given at once, the depression is yet more marked, and after seven hours it still amounts to 2° or 3°.

4. A dose of two grammes causes lowering of from 0.8° to 1.3° at the end of an hour, which increases during the following hours and last still longer than before, so that, so to speak, it may blot out a paroxysm of fever.

5. If repeated doses are given, the action is manifested in from six to eighteen hours, and may continue for thirty-six or forty-eight hours or more.

Consequently, phthisical patients who take antipyrine find their fever suppressed not only for that day, but also for the next day, and even the day after, so that, from having been quotidian, the fever becomes a tertian or even a quartan. *The New York Medical Journal.*

PUTREFACTION DOES NOT KILL THE TUBERCLE BACILLUS. — G. Hunter Mackenzie, M.D., contributes to the *Lancet* the following very important observation:

In a leading article on the above subject, in your issue of the 12th inst., you remark that "Falk has observed that putrefaction destroys the virulence of the tubercular virus," and that the same observer "has endeavored to obtain by experimental means a benign tuberculosis by inoculating virus attenuated by putrefaction, with the view of discovering the means of vaccinating against tubercle."

I have observed that the bacilli of tubercle are not destroyed, or even appreciably altered, by their continued presence in sputum which has undergone putrefaction. Thus, on the 14th inst., they were readily detected in laryngeal phthisical sputum, which had been kept from August 10th last, now nearly a year ago. This sputum, originally muco-purulent in character, is now of a dirty milky consistence, with a strongly putrefactive odor, and scarcely any of its original constituents can be recognized by the microscope. The bacilli seem unaltered in their physical or chemical characters, with the possible exception of staining rather faintly with rosanilin—a feature, however, which is not unusual under certain circumstances with bacilli from recent sputum. They seem as

capable as ever of communicating tubercular disease.—*Louisville Med. News.*

ON A PARTICULAR FORM OF AMNESIA. LOSS OF NOUNS.—Dr. W. H. Broadbent presented a paper on this subject before the Royal Medical and Chirurgical Society of London (Proceedings). The patient was a gentleman, aged 77 at death. He had a slight and fugitive attack of right hemiplegia, with predominant affection of the face and hemianæsthesia, and an affection of speech, which in about a month settled down to the defect characterized by the impossibility of saying nouns substantive, while other parts of speech were spoken freely and distinctively, which remained the same for more than five years. During this time he never uttered a noun, except once or twice by accident, so to speak, and inappropriately, while he could say other words and employ long phrases so long as they did not contain a noun. When he wished for anything he would say "Please give me the one," and the nurse would make guesses what it was. Other mental functions normal.

The lesions after death were limited to the left hemisphere of the brain, and consisted of small and unimportant depressions in the posterior part of the intra-ventricular corpus striatum, slight diminution in size of the thalamus, complete atrophy of the calcaravis in the posterior cornu of the ventricle, and, finally, an extensive area of softening within the fissures of Sylvius in the posterior half of its extent, sparing altogether the anterior and antero lateral convolutions of the insula, the third frontal, and the foot of the two convolutions of Rolando, destroying completely the two long posterior convolutions of the island and the subjacent white fibres down to and including the corresponding part of the external capsule, but not invading the lenticular nucleus (or extra-ventricular corpus striatum), and undermining the supra-marginal lobule and angular gyrus, but not implicating the entire thickness of their axial white fibres or reaching the convexity of the hemisphere. The infra-marginal or first temporo-sphenoidal convolution was remarkably little affected.

The hypothetical mechanism of speech and thought advanced by the writer, assumes in the highest or cerebral, as in the lowest or spinal nerve-centres there are sensory and motor departments, the motor

apparatus being educated, so to speak, by the sensory; this education being represented structurally by the formation of groups of cells, through which orderly movements are effected.

On the sensory side, it is supposed that in the integration of speech and thought, perceptions from the different perception centres converge upon a common cortical area where they are combined or elaborated into an idea, this idea being symbolized by the associate auditory perception or name. The corresponding motor-centre to this name or idea-centre is supposed to be a propositionizing centre, in which takes place the mental rehearsal of a phrase or sentence, which is a necessary antecedent to its utterance.

Hence, if the path from the visual perception centre to the naming centre were interrupted, the sight of an object would no longer recall its name, and a case answering to this condition has been related to the Society. Again, damage to the tract of fibres passing from the auditory perception centre to the naming centre would prevent the patient from understanding what was said to him. The case forming the subject of this paper is supposed to illustrate damage to the communicating tract between the naming and the propositionizing centres. The patient could rehearse a phrase in his mind, but the name or noun was not supplied from the appropriate centre.—*Journal of American Med. Association.*

MURIATE OF AMMONIA.—It increases the secretion of mucus from the alimentary canal, and is supposed to render the blood less plastic and coagulable, without impairing the structure of the corpuscles. Its habitual use causes emaciation, renders all the secretions freer and more abundant, and asserts an alterative and absorbent action, especially on the connective tissues, in hyperplasia and cirrhosis of many organs. It has even exerted some beneficial influence on fibrous tumors of the uterus, and much more upon chronic engorgement of that organ. Its slow but steady modification of the nutrition of the connective tissues has been seen in chronic enlargement of the liver, spleen, prostate, thyroid, and other enlargements. It cures many cases of gleet, and if any internal remedy will cure stricture of the urethra, this is the one most apt to do it. It cures some cases of

neuralgia depending upon thickening of the neurilemma, and is one of the best remedies in fibrous phthisis. If other remedies fail it should be tried in sclerosis of the cord and brain depending upon thickening and induration of the neuroglia.—*Medical Record*.

THERAPEUTICS OF HORIZONTAL POSITION.—Dr. R. H. Gunning, of Edinburg, tells us that it is enough to look at the veins of the back of the hand or inside of the leg to see the effects of hydrostatic pressure. The limb being perpendicular, the veins swell; placed horizontally, they again become normal. If so in the limbs where the veins have valves, more so in the veins where there are no valves, as in the lower intestines and in the reproductive parts. How easy to prevent varix, varicocele, piles and leucorrhœa, by reclining sufficiently, or to develop them by overstanding or overwalking. That is what he thinks is not sufficiently estimated in books nor in practice. Too much is expected from local applications or operations of one kind or another, and too little is trusted to the help of position or physical law.

Then we must not forget that the force of the heart and the general circulation are diminished by the recumbent position. The pulse increases in frequency by sitting up, and more by standing up.—*Boston Medical and Surgical Journal*.

A SUGGESTION CONCERNING THE TREATMENT OF ACNE AND ACNE ROSACEA IN THE MALE SUBJECT.—At the last meeting of the American Dermatological Association, Dr. S. Sherwell read a paper on the subject. He said that too little attention had been paid to the disturbances of the genital tract as causes of the diseases which formed the subject of his paper, and gave credit to Piffard and Hyde for having recognized their importance in this regard. He then spoke of the occurrence of chronic congestion and hyperæsthesia of the male urethra in some cases, and recommended for its relief the use of cold steel sounds. He concluded by detailing two cases which were greatly benefited by this means.

Dr. A. R. Robertson thought the suggestion a sensible one, and if followed benefit would result in some cases.

Dr. G. H. Fox spoke of the liability of physicians to ascribe results to a certain line of treatment, when the improvement might

have been due to a change of regimen on the part of the patient without the knowledge of the physician. He also thought well of Dr. Sherwell's suggestion.—*Medical and Surgical Reporter*.

OSMIC ACID IN EPILEPSY.—The employment of osmic acid in epilepsy suggested itself to M. Wildermuth from the value of the drug in cases of neuralgia. At first the acid was used, but later an osmiat of potassium. The medicament was administered as pilules, each containing one milligramme of the active substance. The maximum daily dose employed was fifteen pilules, or fifteen milligrammes. Thirteen patients, the subjects of confirmed epilepsy, were under observation. The remedy was first combined with bromide of potassium, but this method was not followed by good results. Under the sole influence of the osmiat the number of attacks was steadily diminished, as compared with their frequency on expectant treatment. In only one instance, however, was complete immunity conferred.—*Medical and Surgical Reporter*.

THE LANCET & CLINIC and OBSTETRIC GAZETTE to one address one year for \$5.00.

THE EXPERIMENTAL PRODUCTION OF TYPHOID FEVER.—Dr. Luigi Petrone reports the following interesting observation in *Lo Sperimentale*, April, 1884. A patient, 22 years of age, suffering with typhoid fever, towards the end of the first week had a temperature of 40.3° C. (104.5° F.), when an ounce of blood was taken by a leech. Under microscopical examination the reporter found very few spores, a few short bacilli, many spiral forms and threads, joined together in bundles, all of which forms took staining remarkably well with Weigert's fluid. The next day the blood was injected into two dogs by hypodermic injection. By the next day there was increase of temperature, thirst, and muscular prostration, which were soon associated with anorexia, diarrhœa, tenderness of the abdomen, particularly in the right iliac region, swelling of the spleen, and tympanites. Twelve days after the injection had been made, both animals succumbed. The autopsy revealed recent swelling of the spleen, enlargement of the mesenteric glands, which were decidedly infiltrated; the solitary follicles and Peyer's gland were

swollen, and in the lower part of the ileum the mucous membrane was ulcerated. The blood contained micrococci, bacilli, and threads. In fresh preparations of the liver, spleen, large bowel, and Peyer's glands, there were seen infiltrations of bacilli and spores, with spiral-formed threads.

From each of the dogs about fifteen grammes of blood were drawn and successfully injected into two other dogs, and autopsies of the fatal cases showed a result identical with the foregoing.

Recalling the experiments of Klebs and Tizzoni, the reporter draws the following conclusions from his experiments:

1. The blood of typhoid patients (*typhus-kranker*) is septic, and is capable of infecting animals into which it has been introduced by injection.

2. The infection succeeds immediately in dogs, by means of the blood, without any prodromic symptoms.

3. Clinically, the infection reveals itself in dogs by high, continued, remitting fever, and through a typhoid condition, as it is developed in man.

4. The anatomical alterations found in the experimentally-excited typhoid were developed and maintained by means of small parasites, which were present in the form of spores, bacilli, and a thread-like mycelium.—*Deutsche Med.-Zeit.*

ERRATA.—In our last issue, article of Dr. N. F. Schwartz, the following omission occurred, on page 310, first column, line 20: "After carefully completing the details of the operation, *left him and visited him again on the third day after the operation*, when to my surprise he was able to articulate plainly, etc. The Italics indicate the omission.

SURGERY.

THE SURGICAL AND ORTHOPEDIC TREATMENT OF INFANTILE PARALYSIS. A paper read before the British Medical Association, by Bernard Roth, F.R.C.S.

I wish in this paper to refer to the treatment of infantile paralysis, after the acute stage has passed, when it is possible to recognize which muscles are likely to recover more or less complete power, and those whose power of voluntary contraction will be more or less destroyed.

It is during this stage, when the paralyzed muscles are beginning to recover their power,

that various deformities of the trunk and limbs are prone to occur; deformities which frequently cause more grief and hardship than the permanent paralysis left, and yet by perseverance can nearly always be prevented. The two guiding principles in the surgical and orthopedic, or after-treatment of infantile paralysis are:

1. To improve the power of those affected muscles which have still some voluntary power left.

2. To prevent any deformity, or to reduce it to a minimum, if it has already occurred.

With reference to the diagnosis of infantile paralysis, this does not present much difficulty when the chronic stage has been reached. In every case a thorough examination of the trunk and limbs should be made, each joint in turn should be examined, and the patient urged to make an effort to perform all the movements possible for the given joint. By first doing the motions on the opposite limb, if that be normal, he will more readily understand what is required of the partially paralyzed one. When the patient can not execute the motion, the surgeon should do it passively, and if there be any contraction or limitation of movement in a joint, this will be at once noticed.

1. To improve the power of those muscles which have still some voluntary power left.—The first thing is to correct the lowering of the temperature. If one leg is affected, the parents should be told not to be satisfied unless it is as warm as the healthy one. It will generally be found that after a night's rest in bed the paralyzed leg is perfectly warm. The patient should be quickly sponged with tepid water on rising, followed by good rubbing and drying, and extra clothing applied to the affected limb. Cloth leggings lined with fur should be worn during the day.

Warm baths, 88° to 100° F., for from ten to twenty minutes every evening are most useful. For young patients, five to ten years old, a small barrel standing on end answers most admirably. The bath should be followed by a rapid sponging of the whole body with cold water, so that no undue sensitiveness to changes of temperature be induced.

Next, massage or rubbing is indicated, and though many medical men employ it, it is seldom practiced long enough or with sufficient force. An hour twice daily is of

ten hardly enough. In every case the rubbing should be superintended by the surgeon for the first time or two. It cases of long standing, more or less of the situation of the wasted muscle is frequently taken up by tenacious adipose tissue, through which the pressure of the rubber's hands has to be transmitted.

The rubbing or massage I employ may be roughly classed as kneading, circular friction with the thumb, fulling, and firm stroking down. Kneading is a combination of grasping, and large pinching and pressure, with the two hands used alternately, so that whatever is left of the wasted muscle is thoroughly squeezed and moved about. As considerable force is required, the integument should be protected from abrasion by lubrication with olive oil or vaseline, or other fatty substance.

Circular friction by the thumb is done as follows. The operator's thumb-end is firmly placed on any given spot, and while considerable pressure is exerted, describes circles, ten times from right to left, and ten times from left to right. A spot an inch higher or lower or to one side is then treated in the same manner, and so on until the muscle has been thoroughly manipulated in every part. This method of rubbing is very useful when the space occupied by the affected muscle is small, as in the case of the anterior tibial muscles, or of the muscles on the anterior or posterior aspects of the forearm, etc. It is, however, equally efficacious for large muscles.

Fulling acts less directly on the muscles, but rather on the whole of the tissues of the paralyzed member, which is at the same time as firmly compressed as possible. If the leg is to be full, the operator begins at the groin and works his way down to the foot, moving the hands rapidly to and fro the whole time. The first time the hands should be on the outer and inner aspects of the leg. Next, they should be placed higher on one side and lower on the other; the third time this position is reversed, and finally the hands are placed anteriorly and posteriorly to the limb. Such a manipulation carried out vigorously for five minutes seldom fails to produce a most wholesome glow and increased circulation in the blue and chilly limb. A dozen or two firm strokings-down of the leg ends the rubbing.

Even more important than the rubbing is the methodical exercise of those muscles which have partially recovered. Every mus-

cle which is still partly under the control of the will should be acted on; for whenever by a great effort a patient can contract a paralyzed muscle, an increased amount of power can be obtained by long continued perseverance in methodical exercise. Medical gymnastics, or so-called "Sweedish exercises," where each muscle or group of muscles is made to contract and then gradually relax, at first actively, and then against resistance by the surgeon are most efficacious. Although faradization is useful when voluntary power is very feeble or not yet present, it cannot be compared to this treatment by exercise, with resistance alternately by the surgeon and patient.

Hip joint.—The gluteal muscles are the most important muscles of the lower extremities, for if their power be left, or if they can be sufficiently developed, the patient may eventually be made to walk, with or without sticks, even if the other muscles of the leg are utterly wasted.

An efficient exercise for the gluteal muscles is for the patient to lie prone and raise the leg, with knee extended, from off the ground. If the gluteal muscles are too weak, the surgeon or assistant helps the patient by supporting more or less of the weight of the limb by placing the hand under the front of the knee. After a few days circumduction of the hip from right to left, and *vice versa*, is to be tried ten or twelve times each way. By the time the patient has increased in power, and finds this circumduction easy, its severity can be augmented by the surgeon's hand pressing downwards against the back of the heel, or by placing a bag of shot over the tendo Achilles. If the abductor muscles of the hip are weak, the simple expedient of making the patient lie sideways and doing the circumduction with the uppermost leg, will bring them into action. For the flexors of the hip, the same circumduction is to be done with the patient lying on his back and the knee kept extended.

Knee joint.—For exercising the extensors, the patient lying supine, with the knees flexed and the legs hanging vertically over the end of the padded table on which he lies; he is requested to slowly extend one knee; if the weight of the leg is too great, the surgeon assists by supporting the foot while the patient voluntarily performs the movement. The flexors of the knee generally escape paralysis, but are easily made to act by the patient lying prone and trying

to lift the foot off the ground by slowly flexing the knee, against the surgeon's resistance, if necessary, applied to the back of the heel.

Ankle-joint.—The patient, sitting, has the leg supported on a chair, with the foot projecting beyond. Flexion, adduction, extension, circumduction and abduction are executed either voluntarily by the patient, or passively by the surgeon. If there be any contraction of the tendo Achillis preventing normal dorsal extension of the foot, passive extension of the foot with considerable force should be employed, and if there is not sufficient elongation at the end of three or four weeks, tenotomy must be performed. This operation should be avoided, if possible, when voluntary dorsal extension is absent, or so deficient as not to overcome the weight of the foot. When I employ tenotomy, I recommence systematic exercise as soon as the skin-incisions are sufficiently healed, that is, on the third or fourth day. The previously learned exercises are found to be easier after the tenotomy, which gives at once greater range of movement.

Shoulder-joint.—The patient lying on the back, circumduction from before backwards is one of the exercises most easily taught, if there be any voluntary power, the elbow and wrist being kept extended, either voluntarily or by means of a wooden splint. To bring the scapular muscles into action, the patient lying supine, with the arms down by the sides of the trunk, or abducted at right angles to the body, or extended upwards by the side of the head, is told to resist the arms being brought forwards by the surgeon from either of the above positions, and then voluntarily returned to the first position against the surgeon's yielding resistance, the elbows being kept extended. The rhomboidei and subscapularis muscles are chiefly brought into action in the second movement with the arms at right angles to the trunk.

The elbow joint.—The upper arm being fixed by the surgeon against the table on which the patient lies, the movement of flexion or extension is easily resisted by the surgeon's other hand, the elbow being either flexed or extended to begin with. Pronation and supination and flexion and extension of the wrist, present no difficulty if a little time and attention are devoted to carrying out similar exercises to those already described. The same remarks apply

to flexion, extension, adduction and abduction of fingers.

Throughout these exercises care should be taken that, while the patient is trying to contract, that is, to exercise, he should not contract other stronger or normal muscles which should be kept at rest.

2. To prevent or remedy deformity.—It is important, where one limb is affected, to prevent shortening of the bones as a result of less active nutrition as compared with that of the sound limb. When one leg is shorter than the other healthy leg before the patient has come under observation, it is possible commonly to prevent further increase of the difference by carrying out the directions given above. It is essential for the prevention of lateral spinal curvature to have the lengths of the two limbs equalized by a thicker sole on the boot of the shorter. In the upper extremities, where one arm is paralyzed, it is often most useful to bandage the healthy one close to the body for some hours daily, so as to induce the patient to use the weak arm as much as possible. In all cases it is necessary to stop unnatural modes of progression, such as crawling or walking on the hands and feet, hopping, or running with the legs much flexed at the hips and knees. If there be flat foot, properly shaped laced-boots with felt pads should be prescribed, and other special treatment followed, as given in my article, "Early Treatment of Flat-foot," in this journal for November 18, 1882.

If the toes are much deformed, or curled over one another, stockings with toes will be found efficacious. In no case should garters be worn, but suspenders used instead.

With reference to the general health I attach much importance to milk forming a large element in the food. I strongly advise tepid water enemata, on alternate days if necessary, rather than purgatives, when there is any tendency to constipation. The patient should be in the open air for several hours daily, and should always remain in the best possible positions, whether sitting or lying.

I have not referred to the subject of excision or division of tendons for shortening partially paralyzed muscles, as I have not yet seen any cases in which this treatment appeared to be of any use.

Prognosis.—If there be any voluntary power left, some improvement should be obtained by a months treatment, and a very

decided improvement by the end of three months. Afterwards, the friends, having been properly trained, as well as the patient, can carry on the treatment almost as successfully at home as long as necessary.

THE ARREST OF HEMORRHAGE.—In the *Glasgow Medical Journal*, August, 1884, Dr. J. Stuart Nairne publishes the following practical remarks:

"I have been present at operations where one might truly say that it was only by the grace of God the patient did not die on the table from hemorrhage, as there were neither right nor ready means at hand for controlling it; where there was nothing better for tying the stump of a pedicle than a piece of whip-cord tightened by the hands; and any one who has seen this method of securing a thick stump, will not be very ready to try it. By no amount of manual pulling could you safely compress a vascular stump, say from an inch upwards in diameter. The vessels in the centre would be sure to bleed sooner or later, and I have seen one fatal case from this cause. In this case the operator had neither clamp nor compressing forceps, nor wire ligature to be screwed up; nor even the loop of an *ecraseur* to control the hemorrhage. In one public institution I saw a death on the table. The uterus was amputated at the cervix, while the stump was grasped by the hand in order to tie a ligature to it. Before this could be done, the patient was dead. It is right to state that this death was attributed to shock, and not to the loss of blood. If this was a death from shock, it is the only sudden death I have ever seen from that cause. I do not believe that death can ever possibly occur from that cause—viz., shock—unless some of the vital nerve centres be directly implicated, always taking for granted, however, that the patient is properly under the influence of an anæsthetic. Under these circumstances, and also when no anæsthetic is used, death may occur from the most trivial shock. You will remember a recent case when a highly respected surgeon of this city, examining a patient with inguinal hernia, found it suddenly slip from his fingers, and on announcing this pleasant fact abruptly to the patient, she immediately died. This was a death from pure nervous shock, and could not possibly have occurred under an anæsthetic. I do not believe a death ever occurred under an an-

æsthetic, unless from the anæsthetic itself or from some kind of blunder in the operation. Some years ago I assisted an operator, a quiet, bold man, now laid in his grave, in the extirpation of some deep-seated glands of the neck on the left side. The pneumogastric of that side was cut; its inhibitory action ceased, and the pulse and respiration rushed at unaccountable speed, bringing death in less than ten minutes. *De mortuis nil nisi bonum.* It was a blunder, we all said so—four of us then, and the two eminent of us since then laid in their graves: and this statement, a truthful little cross elevated over the one's tomb in no spirit of animosity, but as a valuable warning to us who remain. This is the kind of sudden death, then, that occurs under operation—error of judgment in doing, a slip, incapacity to control hemorrhage or surmount difficulties, or extinction of life by the anæsthetic.

"In a case narrated in a recent number of the *British Medical Journal*, Knowsley Thornton, who assisted the operator, passed his hand into the pelvis and held the stump of the uterus, which had been removed, till Kœberle's *serrencœud* was applied. The case recovered; but such a course is not to be imitated. An experienced operator may do almost anything; but no one has the right to place the life of a patient in jeopardy either through temerity or carelessness, far less from a desire to show off his dexterity. Every drop of blood that you save is a gain to your patient.

"I am sure many of you must remember as well as I do when an operation in our Royal Infirmary resembled, to a large extent, an exhibition of so many artificial fountains; I and my fellow-students have frequently been bespattered with blood as we sat in the benches. I remember an operation for ovariectomy in the Chapel, the old operating theatre of the Glasgow Royal Infirmary. The general circumstances are as fresh and horrible in my mind as yesterday. The incision—the uselessly long incision—into the abdominal parietes was followed instantly by torrents of ovarian fluid and blood, the operator thrusting his hand into the interior of the cyst and breaking up smaller loculi, which discharged themselves in the same way. Everybody and everything around was soaked. *Nous avons change tout cela.*

Pressure Forceps.—There need be no such display, Deliberation, quietness, the

application of pressure forceps immediately you cut, or, when possible, before you cut, and your operation will be conducted with the greatest cleanliness and the least risk to your patient.

"The ordinary artery forceps are absolutely worthless for the immediate suppression of hemorrhage. You have frequently neither time nor room to throw a ligature over a bleeding vessel in the usual manner; and, as I have seen, at a later stage of the operation the ligature and end of the artery may be cut off by accident. You can never make such a mistake with pressure forceps; for if you have to cut a little beyond or above them, you are bound to know what you are doing; you see the forceps attached, but you may not in your hurry notice the loop of silk or catgut.

"In an operation shortly since, which I had the pleasure of doing for Mr. Gilmour, eleven pairs of these forceps were attached at the same time to various bleeding vessels and surfaces; and I may refer to that gentleman and to Dr. Pollok, who was also present, to say if there could have been more than two ounces of blood lost in an operation that lasted for an hour and ten minutes.

"The use of these forceps is not limited to abdominal surgery; they are far too seldom used in general surgical work. Your President kindly assisted me the other day at an operation in private for amputation above the knee-joint. With the limited use of an elastic tourniquet, and the rapid application of half-a-dozen pairs of forceps to the bleeding vessels, I think Dr. Park will bear me out in saying that there could not have been lost more than half an ounce of blood. In a long operation, by the time you are ready to tie the vessels you will frequently find the bleeding has ceased, and you will require fewer ligatures than you could have anticipated. It is a little difficult to slip a ligature on a vessel over the points of these pressure forceps, and you may require occasionally to put on an ordinary pair of forceps for this purpose, but very rarely indeed.

"These scissor or pressure forceps are of various sizes and makes, concerning which more particulars a little farther on. Those used by Sir Spencer Wells are admirable instruments; Lawson Tait's form is sharper in the nose, and he claims for them that their point is not so readily entangled in a ligature; the bulbous extremity which I

have put on them, however, prevents any possibility of this happening. Pressure forceps, then, are a perfect *sine qua non* in an abdominal operation. It is important that there should be as little blood lost as possible, and it is also important that as little blood as possible should escape into the abdominal cavity.—*Med. and Surgical Reporter*.

TUMORS OF THE CEREBELLUM, AND PHENOMENA ASSOCIATED THEREWITH.—With Notes of a Case and Pathological Specimen.—Read in the Section of Physiology and Pathology, British Medical Association, by S. A. K. Strahan, M.D.

The exact part played by the cerebellum in the production of nervous phenomena is not yet determined. Various functions have been attributed to it by physiologists at different times; but, of all these, co-ordination is the only one which now stands unquestioned, and in it we certainly seem to have hit upon one true function of this organ.

The experiments of Flourens, Ferrier, and other practical physiologists, certainly prove that the mechanical destruction or irritation of parts of the cerebellum destroys wholly or in part the power of co-ordination in the muscular actions, and especially in those of the lower extremities. But, while injury of a lateral lobe of this organ causes pretty constant phenomena in the laboratory, it is found that disease of a lateral lobe in most cases causes no symptom pointing at all in the direction taken by the mechanically induced phenomena. In fact, it is the rule that in cases of tumor of the cerebellum a clear diagnosis is seldom or never made during life, except in those cases in which the middle lobe is affected.

Aitken, quoting Althaus, puts it shortly thus: "Symptoms occur only when the middle lobe is affected." The study of the minute anatomy of the organ does not clear up this strange absence of symptoms in cases where the central lobe is free; and why mechanical injury should act so very differently from disease we cannot explain, or even very clearly understand.

It may be worth while briefly to record the following case, more especially as it is one of the few in which the symptoms point directly to the seat of disease, and a correct diagnosis is possible.

Charles L., aged 7, was admitted as an

idiot into the asylum. He was a small squat boy, with convergent strabismus and some nystagmus. He talked incoherently in a semi-distinct manner, answered simple questions sensibly with "yes" and "no," and made peculiar noises with his mouth at times. He was dirty and destructive in his habits at first, but he improved much in this respect. He always had an awkward gait, although nimble on the feet, and he generally kept the hands and wrists half-flexed, as though semi-paralyzed. Coordination in the hands appeared good, but in the legs it was from the first imperfect; vision was good, and sensation normal.

The family history is worthy of attention; it was as follows: His grandmother was an epileptic; his mother was an inmate of an asylum; his father had been a certified lunatic on at least one occasion, and an uncle had died in an asylum.

The boy lived five years after his admission into the asylum. After one year's residence, he began to have attacks of vomiting at irregular intervals, which were attributed to overeating, and a year later he developed what was looked upon as true epilepsy. During the third year of residence, the fits, which had been few, began to increase in number, and he made no mental advance from this time. During the fifth and last year, he became unable to walk safely. His gait was exactly that of a child giddy from turning round; when he got started in a straight line, he would get along pretty well at a kind of half run, but when called back he would stop, sway about, and seem unable to turn for fear of falling. During the six months before death, the giddiness increased, and he was soon totally unable to walk alone, although he could do so fairly well if supported by the hands. Then he became worse, and could not stand alone. If left standing, he swung around and fell. The body did not in its gyratory movements always swing to the same side; the direction seemed to be determined by the relative position of the body and lower limbs at the time.

A month before death, he was totally blind; but, in consequence of his limited mental development, it was not known when the optic neuritis had set in. Five years after admission (age 12), he was seized with a fit, in which he died from apnoea.

I must mention that, during the last

year, when able to walk about, he was noticed to turn round when seized with a fit, and before he fell he was seen to make more than a complete revolution.

Necropsy.—The arachnoid was thickened generally over hemispheres, and the pia mater, on removal, tore the brain-tissue considerably. The convolutions were somewhat flattened; the grey matter was thin; the sulci were shallow, and the white centres of rather more than the usual consistence; in fact, it was a typical imbecile brain. The brain could not be removed entire, in consequence of adhesion between the part of the cerebellum and the dura mater. The adhesion was sufficiently firm to drag the tumor out of its bed in the surrounding softened brain-tissue. The adhesion was entirely made up of connective tissue; there was no vascular connection. The tumor lay in the centre line, and extended almost equally into each lobe. The surrounding brain-tissue was much softened, and it was impossible to make out even the arbor vitæ on section. The tumor weighed over an ounce, and made up more than a third of the whole cerebellar mass. It occupied the whole depth of the inner and posterior parts of each lateral lobe of the cerebellum, and extended forwards over the roof of the fourth ventricle to the peduncles.—*British Medical Journal.*

THE ETIOLOGY OF CANCER.—Dr. J. H. Stallard speaks wisely when he says, in the *Pacific M. and S. Journal*, July, 1884:

No subject presents a more hopeful field for the conjoined action of the profession. We want a more exact personal history of those who suffer from malignant disease, especially as regards the great question of diet and regimen; and it is much to be hoped those physicians in England and America who have promoted this mode of investigation, will take up this great and important subject. It is now settled that our best remedies are failures, and that early extirpation is our best resource. If we should be able to attack our enemy by preventing the predisposing condition, there will be hope that the cancer mortality will fall.—*Medical and Surgical Reporter.*

VALERIAN IN THE TREATMENT OF SUPERFICIAL WOUNDS.—At a recent meeting of *Société de biologie* M. Arragon brought forward a new method of dressing wounds,

by which, he declared, their healing was hastened and the pain was made to disappear at once. The method consisted in the application of compresses wet with a decoction of thirty parts of valerian root in one thousand parts of water. Of fifty patients treated in this way, with only two had benefit failed to result, whether the wounds were lacerated or contused, but it is expressly stated that the treatment is of no avail for deep wounds. In one instance, warm injections of the decoction were used for otitis media. The anodyne effect is attributed to the action of the valerianic acid, on the terminal nerves, and an antiseptic influence also is credited to the remedy.—*New York Medical Journal*.

TERATOMA OF THE PITUITARY GLANDS.—H. Beck reports, in the *Prager Ztschr. für Heilkunde*, 1884, Bd. iv. Hft. 4 u. 6, his examination of a tumor of the pituitary glands, which Chiari found in a woman seventy-four years of age. It had caused trouble of vision, by producing a flattening of the optic chiasm. The tumor was the size of a walnut, and contained a cyst with gelatinous contents, teeth, and bones; the cavity was lined with ciliated epithelium.—*Centralbl. f. d. med. Wissensch.* August 2. 1884.—*Medical News*.

MISCELLANY.

DOES DEATH STING?—Read before the "Nous Club," of Birmingham, Conn., by Geo. L. Beardsley, A.M., M.D., and published in the *Med. and Surg. Reporter*.

The dread of dying is quite as intense as the instinct of self-preservation. Indeed, it is not improbable that numbers would care less about living were the modes of leaving the world a theme for happy contemplation, or an innovation to the routine of plodding, that was agreeable. One is remarkably exempt from the crime of hasty induction if he affirms that there is no sane or healthy mortal who anticipates his extinction with any degree of pleasure. This generalization is made in the face of the religious exaltation which is declared by the affected as potent enough or so possessing as to overcome the innate fear of dying. It is almost demonstrable that this religious ecstasy is a species of hysteria—if so, the assertion just made holds good. This horror of passing into the untried country is mainly explained by the tutored

notions of the hereafter. A writer has said that the Christian only demurs about dying—the savage counts it a pleasant journey. Even the brute is to be envied for its immunity from encounters with the harrowing apparitions which often follow fast the soul in its escape from the earthly environment.

But with the moral aspects of death we have no concern. If one can rationalize a conception or frame a hope that will assist him to die serenely, quite loath would we be to dispossess him of the inclination. It is the purely physical features of dissolution on which just now we are content to ponder.

The material phenomenon of death, that is, the process, independent of the "wages of sin," are much more delectable topics for a review than is ordinarily allowed. In its chemical reference, dissolution betrays nothing that is repulsive or allied to suffering. Decay is in the domain of the same law as growth. The two are the termini of the series of evolutions which the process of being involves.

Now, the molecular changes in repair are never apparent to the sensory centres. The transit from state to state in the genesis of matter are without the cognizance of the feelings equally after birth as during the intra-uterine captivity. No meter has as yet gauged or determined the individual accretions resulting in a healthy assimilation. In the full fruition of the process one sees the gain, but never can he count the steps, much less is he sensible of the mutations. The germination of a cell is so strangely, so quietly perfected that no tissue can predicate of itself what are its interstitial changes.

The function of growing is automatic—the individual renders no assistance, and without the slightest cerebration or effort of consciousness, is operated upon by forces whose silent combinations can never be registered or criticized.

The same physio-chemical energies are concentrated in the cataclysm of the cell as in its proliferation, only the reciprocity is uneven, the balance between repair and waste is lost, or rather, in favor of the latter.

The function of dying is purely vegetable—we fall to pieces like a flower. This very fact that the process is chemical confirms us in the conclusion that the final "throe" is as painless, as the inconvenience is nothing to the foetal pilgrim when he

touches on daylight. A moment's examination of the way we are to die will show signs of goodness in our "taking off." The degree of sensibility is proportioned to the integrity of the tissues. An inflammation heightens it, age depreciates it. Any defect in nutrition disturbs the comfort of the individual until the carbolic acid generated in the devitalization of the blood becomes fixed in the cells or is no longer displaced. The sensory ganglia everywhere lose their irritability by virtue of this poison, and cease to conduct currents. The criteria of death are being satisfied, and the process is consummated when this extinction of sensibility prevails at the ultimate filaments. During the progress of this dissolution of the nerve force, this creeping on of the numbness of death, the individual is rapidly passing into a condition of repose, and instead of torture or pangs, a degree of self-satisfaction oft approaching enthusiasm is realized. The sensations peculiar to the therapeutical preparations of haschish, opium, ether, etc., are not improbably akin to the mental activities of the dying. Barring the hallucinations experienced in the stupor as it gains on the patient, the moribund is familiar with naught that borders on suffering. This carbonic acid has poisoned or narcotized the several ganglia, and reflex productions are interdicted. A consummate analgesia prevails. In short, the notion of pain is forbidden the instant that any stimulus fails to excite a response. The condition of this irritability is that the nerve centre and track be sound. If this vigor vanishes, reflex phenomenon are at an end, and suffering, physiologically speaking, is impossible, because of the arrest of the function of the sympathetic.

Fortunately for a wholesome study of ones demise, there is testimony abundant, from vivisection, from accounts of those who have been restored to consciousness, and the affirmations of the dying, that there is no physical recoil from death. Burney tried hard to resist the efforts made to resuscitate him from drowning, so bewitched was he by his prolonged slumber. Dr. Solander, the traveler, was so delighted with the sensations of excessive cold that he was the first to lie down in the snow to realize the luxury of such a death. Wm. Hunter was sorry he was not able to write how easy and delightful it is to die. Infants die as serenely as they breathe, and not infrequently those advanced in years

treat death as a friend of their infirmities. Hanging is, naturally, rated next to crucifixion, a most distressing procedure. But it is reported of those who have been saved from the strangulation, that the agony promised to be brief, and was succeeded by hallucinations of the most fascinating variety.

One would fain believe that the kind God, who suffered us to feel no sigh in coming, would take no delight in turning our farewell into writhing. Nay, he does not quit us at the last. He is our greatest benefactor in allowing us to sleep out of weariness. Death is assuredly no tax-collector—its "jaws" are not the clutches of an assailant—there is no "victory to the grave"—the ghost speeds away from us as it entered, with no ruffle. The pain of death, as Shakespeare has it, is most in apprehension. It is the fear of the lonely night, not the throes of nature, that makes the leaving painful. Those who are self possessed, or who are not racked by unwelcome surroundings, or who are not terrified by a cultivated awe about the damnation bottled up for special misdemeanors, these sink into the embraces of death with a longing for the lull it brings to the heavy heart and jaded muscle. The countenances of those who have died on the instant, as from lightning, aneurism or pistol shot, is remarkably placid, and not infrequently it is chronicled of this or that death bed that in spite of the violence of the inflammation, the patient met death with ease, on account of a "saving faith." It can hardly be allowed that a faith can be "saving" enough to be antidotal to a vigorous pain, but the statement is nice, by way of confirmation of the theory that the real agony of the dying is not the reflex disquiet, but the setting in order for leaving.

"To die is landing on some silent shore,
Where billows never break nor tempests roar,
Ere well we feel the friendly stroke."

PREMONITION OF DEATH. — From the *St. Louis Courier of Medicine*:

AUBURN, N. Y., August 6, 1884.

Dear Dr. Nelson: — I am in receipt of your letter of the 30th ult., requesting me to furnish you a detailed account of an incident I once described to you as occurring in my early medical life. I accede to your request, for although more than fifty years lie between now and that event, the marvelous scene is as vividly pictured in my

memory as if it were yesterday. To men of science, of profound intellect and deep thought, I have related the occurrence and requested a solution, but in no single instance have I been favored with an attempt to solve the problem. There it remains—unparalleled in its mystery, the recondite cause unexplained and unapproached.

I have often thought of committing it to manuscript, and as often failed—from the obvious fact that the little attendant circumstances which give supreme interest could not be mentally photographed or pictured in pen and ink by even the most dexterous adept.

I could state that a man in vigorous health "foretold his own death, and without any apparent cause fulfilled his prophecy," but that alone would fall unheeded, unremembered, and devoid of lasting interest, unless the little links in the wondrous chain could be made to appear, and these could not be reproduced.

The study of mental phenomenon is of peculiar interest. Willingly or unwillingly we must admit that whether by dream or simple impression there is such a thing as presentment, being a witness that "there are more things in heaven and earth than are dreamed of in" our "philosophy."

Herewith I submit a statement of the case:

Mr. S., the subject of this narrative, was about fifty years old, of good health and average mental ability. In his earlier years he had been a very devout Christian, but latterly had been remiss in Christian duty, though not chargeable with immorality. His habits were frugal in every particular, with the exception that occasionally it was thought he had partaken too freely of spirituous liquors.

Early one morning I was sent for, as his family physician, to see him. I found him seated in a chair, perfectly composed, and apparently at ease. To my inquiry concerning his health he replied:

"I am very well."

"Why then did you send for me?"

"I did not send for you, and did not want you to come, but my wife would send for you."

At this moment the wife beckoned me into another room, and related nearly verbatim the following:

"Last night my husband retired to bed before I did, and when I afterwards went in with a light he rose up and inquired who

were those three men sitting on the chairs. I told him there were none there. He laid down for a few minutes, then arose and talked. I asked him who he had been talking with. He said he had been talking with those three men who were sitting at the foot of the bed. I asked him who they were. He replied: 'I don't know, I never saw them before, but I think the middle one is Jesus Christ, and he told me that on tomorrow at a little past twelve o'clock I should be taken with shaking and should die before the sun set.'

"This morning my husband rose as well as usual, ate a hearty breakfast, and yoked his oxen for a load of wood. When ready to start, he said: 'What's the use of this? I am going to die before night, and I won't go for wood.' He unyoked his oxen and went into the house."

Then it was that Mrs. S. sent for me.

I then went to Mr. S. and asked if he would take some medicine. He said:

"I will take all you have in your saddle bags. You can not kill me nor can you cure me. I shall die as I said I should."

"Well, Mr. S., if you are to die this day and appear before your Maker, what are your prospects for the future?"

He replied with great solemnity and emphasis:

"If the doctrine of election be true I shall be saved, for I do believe that I was a Christian."

Lest I might overlook any important feature in the case, I sent for another physician for counsel, who pronounced Mr. S. free from disease and retired. To me there was sufficient interest in the beginning to secure my undivided attention to the end. The prophecy had stated that the shaking was to commence after twelve o'clock, which permitted all forenoon to frame a theory and adopt a treatment. My conclusion will, I trust, receive the full concurrence of the profession. It was that if there was anything supernatural I could only be a spectator, but if it were the result of morbid imagination the appropriate treatment would be to destroy the imagination till the time fixed for his demise had passed.

At a little past twelve his prophecy began its fulfillment. He commenced to shake, which I promptly met with a teaspoonful of laudanum. (This was fifty years ago, and before the days of anæsthesia.) Waiting with intense anxiety to see the result of this

heroic dose, I found it produced no effect, not the least, but the shaking increased. I gave another tablespoonful without any effect, the shaking increased. I gave at intervals another and another and another till I exhausted a four-ounce vial. After this I only looked on and waited on the issue.

When the shaking became so terrific as to prevent his retaining his seat on the chair, he was laid on the bed on his back, in which position it required four men, one for each arm and one across each leg to keep him on the bed.

This condition so continued till near sundown, when the shaking and breathing simultaneously terminated. His strange prophecy had been literally fulfilled. Was it imagination? S. WILLARD.

[May not the man have been addicted to the use of opium? Else how could such quantities of laudanum have been without effect upon him?—ED. *Courier*.]

THE EARTH OUR LAST RESTING PLACE.

—Next to Italy the United States favors cremation more than any other country. Scientists have stated their arguments in its favor. The request of the late Dr. Gross, that his body be burned, shows how honest must have been his convictions on this subject. But it must become much more common before the public mind will sanction the procedure. Setting aside the opposition which it meets from the expressed popular sentiment, it cannot become, within a reasonable period, an ordinary method of disposing of the dead, from the fact that many eminent sanitarians and men prominent in the medical profession do not regard it necessary.

In a recent article on the subject, the *Lancet* of June stated reasons for preferring "earth to fire as the means of dissolution of the dead body." They were these: that burning is unnecessary, because burial can do the same work as safely and effectually, and with less offense to custom, and because for various reasons it is not possible that it should ever be entirely superseded or even probable that it should cease to prevail over cremation.

It is claimed that cremation destroys the infectiousness of disease after death. But a deep and proper burial is a perfect safeguard against the propagation of disease. There is little to be feared after the body is once buried, but it is the period between

death and the interment that this danger is to be guarded against. At this time cremation has no advantage over burial. It is not the mode of disposing finally of the body, but the proper accommodations for its immediate storage, that is at fault. It is the poor and not the rich family that is most liable to suffer. In the crowded tenement of large cities no apartment can be given up to the dead. The family must live in the room in which the corpse is kept.

A proper burial furnishes no arguments in favor of cremation, but there are measures connected with the rite that are most objectionable. The storage of bodies in private vaults, which are frequently visited; or worse, cording them up in the public vaults of the cemetery, which are constantly being entered by the numerous visitors; embalming the bodies, using metallic casks; superficial graves, or graves overcrowded, shallow soil, and like unsanitary measures and conditions are the objectionable practices that are justly criticised. The casket should be no more durable than the strength necessary to insure safe transportation and handling. Every means and precaution should be used to secure the most rapid dissolution of the body. If interments are conducted, and the burial sites are selected under the direction of an unbiased judgment, educated in sound sanitary knowledge, that practice which has so well served the rich and the poor, from which all classes are most benefited, and which is most agreeable to the general public, will continue to be observed, and the long train of relatives and friends will, for the future as in the past, follow that which is corruptable, and see it consigned to its final resting place.—*Physician and Surgeon*

A BUSY LIFE.—A correspondent of the *Canadian Medical Journal* for July gives an interesting glimpse of a many-sided man—the distinguished professor of pathology at Berlin, Professor Virchow. After a short sketch of his life, the different chairs of instruction he has held, the noted men who have been his pupils and assistants, including Klebs, Recklinghausen, Rindfleisch, the recently-dead Cohnheim, Liebreich, Hoppe-Seiler, Orth, Ponfick, etc., we are shown how after forty years of teaching he still works.

"For the first three or four Mondays of the semester, from 7:30 to 10 a.m., he per-

forms an autopsy before the class, giving detailed directions as to methods and the proper modes of observation. On Wednesday and Saturday are held the famous demonstration courses on morbid anatomy, in which the material for the week, often ten or fifteen cases on each occasion, is brought before the students. The time occupied is at least two and a half hours, the first half of which is taken up by some special subject, the pathology of which is well illustrated by the specimens at hand. At 11 a.m. he gives each day a lecture on special pathology. Politics and anthropology now absorb the greater part of his time. He is a member of the German Parliament and of the Prussian House of Representatives; and I noticed a day or so ago in one of the daily papers that Virchow had spoken in one of these thirty-eight times during the session. It need scarcely be stated that he is an advanced Liberal. He is also a member of the City Council—not an idle one either, as the copious literature of the “canalization” (drainage) system of the city can testify. His archæological and anthropological studies are most extensive, and it is upon these subjects that he now chiefly writes. When one turns to the Index of the Berlin Archæological or Anthropological Societies, the figures after the name stand thick and deep, just as they do in a similar index of medical subjects. He has been collaborator with Dr. Schliemann in several of the important works issued on Trojan antiquities. His collection of skulls and skeletons of different races, one of the most important in Europe, will doubtless find an appropriate place in the new Archæological Museum erected by the government. There are those who grudge him the time he spends on politics and his favorite studies, but surely he has earned a repose from active pathological work, and may well leave section cutting and bacteria staining to the smaller fry; and when we consider that in addition to the classes above mentioned he is President of the Berlin Medical Society, and edits his *Archiv*, now a large monthly journal, it can scarcely be said that he neglects professional duties. On all questions of general, medical and scientific interest his utterances are not infrequent, and display a judicious conservatism—as witness his sound position regarding the Darwinian theory as opposed to the vagaries of Hæckel. It is satisfactory to

note that the attack of gouty nephritis of some eighteen months ago appears to have left no trace. Aged, of course, he is (he is now sixty-three), but there is still a vigor and sprightliness in the wiry frame which bespeak years of continued activity.”—*Boston Med. and Surg. Journal*.

DR. KOCH'S CAREER.—An interesting sketch of the life of Robert Koch, the discoverer of the cholera germ, the man whose name is at present in everybody's mouth, appears in a recent number of the *Gartenlaube*. Dr. Koch, who is now 41 years old, is a native of the Hartz Mountains. In 1866 he took his M.D. degree. For the next six years he slowly and laboriously worked his way upward as assistant physician in out-of-the-way hospitals. Fortune did not smooth his road, and when in 1872 he got an appointment at Wollstein, the struggle for existence had again to be fought for seven years. Under circumstances so unfavorable for scientific research he prosecuted his studies with a success which secured a worldwide recognition of his genius. His first distinction was won by the publication of the results of his quiet labor on the methods of the artificial dyeing of microscopic objects, especially of bacteria. By the general public his discovery could not be appreciated, but those who understood the value of these researches in the prosecution of the study of bacteria knew that with it a new era had dawned for science. This conviction has been brilliantly confirmed. During the last five years he has succeeded in identifying the germs of cattle disease, of consumption, and of cholera. These discoveries are not incidental strokes of good luck, but the natural fruits of his own system of research. The significance of these discoveries is felt even by those who have no knowledge of medicine. Experiments in vaccination with the poisonous matter, experiments in disinfection in laboratories, wholesale experiments in the disappearance of epidemics—all these are but links in the chain, the last link of which, the destruction of the germ of the disease, is no more unattainable, but has become even probable. Honors have been conferred on Dr. Koch and his colleagues on coming home from India, the breeding-place of cholera. They have received titles and orders, to which, in honor of the personal danger of the voyage of discovery,

were added such distinctions as otherwise are only conferred on soldiers. By addresses and banquets colleagues have honored them, and it is said that the new Professorship of Hygiene, at Berlin, will be given to Dr. Koch. In short, outward acknowledgments have been plentifully made to the modest, quiet scholar. Although the Germans call him theirs with pride, he will always remain what he is, universal, and he deserves to the full the honorable title of "benefactor of humanity."—*Gaillard's Med. Journal.*

NEITHER AN ADULT NOR A CHILD. — A little old woman with a wrinkled face and florid nose, rushed into a South End drug store the other afternoon and called breathlessly for an emetic.

"Is it for an adult?" asked the polite clerk, as he proceeded to mix and put up the drug.

"Phat's that you say! For an adjult? 'Tis for no adjult that I want it; 'tis for a medicine that I want it for, of course, you gran'horn."

"No, no, you don't understand. I want to know whether or not it's for an adult, because that is a very essential thing to know."

"Phat difference does it make to you so long as I'm payin' my decint money for it?" asked the little old woman, growing excited.

"Well, it makes all the difference in the world, and before I sell it to you I must know whether it is for an adult or for a child."

"Phy didn't you say that before, you ageot? It's naither for an adjult nor for a child."

"Who is it for, then?" asked the clerk in astonishment.

"It's for me ould man and for nobody else."

The emetic was put up without further interruption.—*Boston Globe.*

"SAYRE & SON."—*The Students Journal and Hospital Gazette*, of London, speaks thus of father and son:

Professor Sayre, of New York, and his son were to be met with in the surgical section in strong force. They evidently have a very good opinion of the Association meetings as an advertising medium, and they take care to make a very good use of it. I should have thought that long ere

this the members of the Association were sick of the very name of the plaster jacket, but Sayre & Son evidently think otherwise, and morning after morning they were to be found in one of the lecture theatres repeating and re-repeating their demonstration as to the method of applying the plaster-of-Paris jacket in spinal disease. Now I have not a word to say against the plaster jacket, but it is quite possible to be nauseated when one has the same lecture inflicted on him again and again at each succeeding meeting of the Association, and I would suggest to the Council that they invite Professor Sayre to let us have something in the way of a novelty at next year's meeting."

We would add, amen!—*Southern Clinic.*

Me too, amen and amen!

IT is well that all persons should know what the normal weight of man really is. The following shows the relative height and weight of individuals measuring five feet and upwards.

Five feet and 1 inch should be 120 pounds.

"	"	2	"	"	126	"
"	"	3	"	"	133	"
"	"	4	"	"	136	"
"	"	5	"	"	142	"
"	"	6	"	"	145	"
"	"	7	"	"	148	"
"	"	8	"	"	155	"
"	"	9	"	"	162	"
"	"	10	"	"	169	"
"	"	11	"	"	174	"
Six	"		"	"	178	"

THE INFECTIOUSNESS OF THE AIR IN ROOMS OCCUPIED BY PHTHISICAL PERSONS.

—L. von Wehde has recently made experiments on this subject by collecting the dust from the air in rooms occupied by phthysical persons. After one, one and a half, and two days the glycerine appeared clouded, to the naked eye. Water, into which dust, collected on a dry plate, was placed, also became clouded. Fifteen animals were then inoculated with the soiled fluids. The inoculations succeeded in eleven cases; the other four "died soon after the inoculation of other causes (?)"—*Centralbl. f. d. med. Wissensch.* August 2, 1884.—*Medical News.*

"What is that invisible power." asked an Austin Sunday-school teacher, "that prevents the wicked man from sleeping; that causes him to toss about on his pillow;

and what should he do to enjoy that peace that passes all understanding?" "Go to the drug store and buy some insect powder. Ma sent me for a dime's worth last Wednesday, and we haven't felt—" Johnny Spilkins would have gone into particulars if his sister, who is a little older and has ten times as much sense, hadn't pulled him down.—*Texas Siftings*.

SEWAGE DISPOSAL.—The dry method of sewage disposal as practiced in Canton, is worthy the consideration of health officers of small cities, where wet sewage is not used. Canton, with a population of one million and a half, densely packed together in narrow streets, is, considering its imperfect and dirty drains, a very healthy city. This healthful condition is credited to the daily careful collection of garbage, which is taken out of the city and used as a fertilizer.—*Physician and Surgeon*.

THE NEW PROFESSOR AT JEFFERSON MEDICAL COLLEGE.—The appointment of Professor Mallet to the vacant chair of Chemistry in the faculty of the Jefferson Medical College is one which will add strength to the school and will do much

towards retaining for this city its old-time prestige as a medical centre. A graduate of Göttingen (Ph. D.), of the University of Louisiana (M.D.), and of William and Mary (LL.D.), a member of various scientific societies, and, until recently, Professor of Chemistry in the University of Virginia, Dr. Mallet brings culture, high reputation, and distinguished ability to his new position.—*Phila. Medical Times*.

The following joke has been revived and a medical point given it: "Father," answered a fair penitent at the confessional, when her name had been asked "my name is not a sin." Auspitz in questioning a syphilitic patient, asked him his name. "Doctor," replied the victim, "is my name a symptom?"—*Medical Age*.

IN London a man fell in a drunken fit and broke his neck. The jury found out that his grandfather had died of a broken neck, and brought in as their verdict, "Died by the hereditary visitation of God."

THE International Medical Congress will hold its next meeting in Washington, in 1887.

THE ANTI-SEPTIC METHOD OF DR. DÉCLAT.

Syrup of Nascent Phenic Acid (Syrupus acidi phenici nascenti "Déclat"). $C_{12}H_6O_2$.

A tablespoonful contains nascent phenic acid C.P. gr. ij-ii. Dose for adults, f 3 ss. q. 3 hr. In Malaria, for Mucous Membrane, for Bronchitis, Scarlet Fever, as "Anti-epidemic."

Syrup of Sulpho-phenique (Syrupus sulpho-phenicus "Déclat.") $NH_3, C_{12}H_6O_2, HS$.

A tablespoonful contains sulph. hydro. phenatis ammoniac gr. ij-ii. Dose for adults, f 3 ss. t. i. d. to f 3 ss. q. 4 hr. Chronic Coughs, Catarrh, Asthma, Rheumatism, Skin Diseases.

Syrup of Ammonia Phenate (Syrupus ammoniac phenatis "Déclat").— $NH_3, C_{12}H_6O_2$.

A tablespoonful contains ammonia phenate gr. ij-ii, tr. Thebaic, *miss*. Dose for adults, f 3 ss. q. 3 hr. Influenza, Croup, all Fevers, Acute Forms of Disease, Paroxysms of Asthma.

Syrup of Iodo-phenique (Syrupus Iodo-phenicus "Déclat").

A tablespoonful contains iod. metal. gr. i-ii; potass. iod. gr. i-ii; acid. phenic. nasc. gr. i-ii. Dose for adults, f 3 ss. t. i. d. Glandular Enlargements, Tumors, Ulcerations, Scrofula, Syphilitic Cephalgia, Ostealgia.

Phenated Cod-Liver Oil (Oleum morrhuae phenatum "Déclat").

Specially prepared from fresh cod-livers on the Norwegian coast. A tablespoonful contains pure nascent phenic acid gr. ij-ii. Dose for adults, f 3 ii. t. i. d. In Consumption, for all affections of the Lungs, Anti-Septic Tonic.

Glyco-phenique (Glyco-phenica "Déclat"), for external use, and for dispensing Phenic Acid C. P.

A to % solution of nascent phenic acid C. P. in an aqueous dilution of glycerine C. P. For Gargle, Burns, Moist Inhalation, Vaginal Injections, Anti-Septic Toilet, etc.

Anti-Septic Syrup for Whooping Cough (Syrupus ammonia-phenicus compositus pro pertussi "Déclat").

A teaspoonful contains ammonia phenate gr. 7-10. Dose, f 3 iij. to f 3 xxx., according to age. This compound destroys completely and rapidly the particular germ of whooping-cough.

Hypodermic Injections of Nascent Phenic Acid, Sulpho-Phenique, Ammonia Phenate and Iodo-Phenique, all at 2%.

The above combinations of phenic acid are also prepared with a non-saccharine base for diabetic patients, and for those to whom sugar is objectionable.

Hypodermic Syringes (Dr. Déclat's) with finger bearings, needles, graduated, holds 80 minims.



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Original Articles.

MEDICINE IN THE PAST AND PRESENT.

A lecture delivered at the Miami Medical College
Sept. 23, 1884.

By DR. JOHN L. DAVIS,
Assistant to the Chair of Materia Medica
and Therapeutics.

Gentlemen: If we wish to understand what the tendencies of medicine are for the future, it is essential as well as interesting to look over the past. We must know what our predecessors did; what theories and methods prevailed; what superstitions lived and passed away; how false science faded under the light of knowledge, shining at first dimly and fitfully through the darkness of ignorance, but growing brighter and brighter as the years roll on. In every department of knowledge it is only by understanding what has been that we can predict what will be.

The earliest history of all primitive peoples shows us that the first physicians were the priests. And you can readily understand why this should be so; for among ignorant unenlightened people every calamity, including, of course, sickness, is regarded as the direct manifestation of the anger of the higher powers. The gods are offended, and must be appeased. It is the priests, then, upon whom the duty rests to propitiate the angry gods by means of prayers, sacrifices, incantations, and the various religious rites peculiar to superstitious people. The priests consequently by these means can cure disease and ward off epidemics. Such are the superstitious notions, which history shows us prevail among all nations in their infancy.

When Cesar nearly two thousand years ago crossed from northern Gaul over into Britain, he found the descendants of the old Druids there a priestly class, who combined the offices of priest, bard and physician, and drove disease off by resorting to the wildest orgies and strangest ceremonies. But such absurd methods were not confined to the ignorant Druids. Similar customs prevailed among the ancient Egyptians and Greeks. And at Rome, after it had reached a high degree of culture and intelligence, we are told there were no physicians for six hundred years. Their duties were performed by the priests, and we may be sure that whatever virtue there was in the few medi-

cines administered was more than counteracted by the foolish ceremonies which appeared to constitute the chief part of the treatment. But we need not go back as far even as Roman history to find the priest-physician. In our own country only two hundred years ago the clergy assumed as part of their duty the care of the sick. While these old Puritan clergymen were looking after people's souls, it was believed they were the safest guardians of their bodies at the same time. And the crude drugs which they gave, owed, according to popular belief, much of their efficacy to the religious rites with which they were given. It is Egypt whose authentic medical history takes us back most remotely. The old Egyptians had a god of medicine, called Thaut, the same as Hermes and Mercury with the Greeks and Romans. The sick were under the special charge of Isis, and in the temples of this goddess myrrh and other substances were burned three times a day. To the temples thus filled with medicinal fumes, the sick were brought to be cured, relying more upon the sacred surroundings than upon any supposed healing power in the incense. A certain plant was worshipped by the old Egyptians on account of its healing properties, and temples were built in its honor. After the period of priest-physicians had passed away, the practice of medicine was in the hands of physicians. But according to Herodotus each physician limited his practice to a single form of disease. Thus one would concentrate all his attention on consumption, another would never treat any disease but rheumatism; a third would limit his usefulness to the care of persons suffering with gout or whatever similar ailment afflicted those old people. So you see that the practice of specialties was more refined and minute 4000 years ago than it now is.

When the doctors had failed to benefit a person after a fair trial, the patient was exposed at a prominent place on a public road, in order that passers-by might see him and suggest some treatment, which they had perhaps witnessed in other lands. And persons were required by law to stop and question the sufferer as to his ailments, and if possible to benefit him. When they neglected to do so they were severely punished. The practice of exposing the sick in order to secure hoped-for aid from travelers passing by, was common in most all old countries. Among the Egyptians, 3500 to

4000 years ago, some remedies in common use were: wine, spices, gum, cassia, salt, myrrh, white lead, verdigris, crocodile's fat and certain ointments; fumigations and baths also were often resorted to for their healing properties.

But at a very early period the medical skill and knowledge of the Egyptians yielded to the growing intelligence of the Greeks. It is recorded, that 1500 B.C., Melampus employed iron and hellebore as remedies. He, by the way, was a soothsayer and physician.

A century later Aesculapius lived, the half-mythical physician and surgeon. His medicines were not numerous, nor to our thinking very effective; but their power was augmented and marvels accomplished by a judicious and generous use of charms, potions and amulets. As a result of his wonderful ability in the healing art Aesculapius became enrolled among the gods of the Greeks.

He had many famous descendants, a number of whom fought in the Trojan war, but the greatest of all was in the eighteenth generation from him, Hippocrates, the father of medicine. He was born 450 B.C., and lived to be eighty or eighty-five years old.

He attributed disease to alterations in the fluids of the body. The fluids were four in number, and whenever any one was in excess disease of a corresponding type resulted. Hippocrates was familiar with all medical knowledge existing at his time, though this in fact was not much; but he was above all others a careful and painstaking observer, and his writings reveal the most minute and thorough study of disease, with the aid of such limited advantages as that remote age offered. His remarkable descriptions of the symptoms of disease stand unrivalled even to-day. So accurately has he pictured the countenance of a dying man, that its appearance is fully indicated by the term, the "Hippocratic face." His wonderful description of pulmonary consumption, embracing its symptoms and clinical history, has not been improved upon in twenty centuries, and the treatment he advises for this disease is almost identical with that in practice to-day. The *materia medica* of Hippocrates embraces more than 400 drugs; he used the cautery, he advocated bathing, exercise, blood-letting; and his instructions upon diet are valuable even today.

Hippocrates was one of the most won-

derful men of any age. His marvellous ability caused him to be honored and almost worshipped for centuries, and his writings were unquestioned authority upon medicine until within a few generations of our time. For 2000 years his methods were followed and so thoroughly believed in, that but few modifications or innovations would be countenanced by the people. Nevertheless, many surgeons and physicians attained eminence in the centuries immediately after Hippocrates. The following may be named:

Diogenes Carystius, who wrote upon plants and diet; Theophrastus, the founder of botany; Heraclides, called the prince of empirics. About the first century of our era Dioscorides lived, the most celebrated of all old writers on the subject of *materia medica*, and his work continued to be the undisputed authority for 1500 years. He wrote an impure Greek, introducing many arbitrary idioms, so that his descriptions are often ambiguous, and equally applicable to several different plants. The rude pictures of the plants which accompany the descriptions tend to still further increase the uncertainty. From this vagueness it results that his admirers have no difficulty in finding any plant whatever in the book of Dioscorides, and they firmly believe that his descriptions cover not only every plant known throughout Europe in his day, but new species that have been discovered since. It is asserted that when the potato was introduced into Europe from America, enthusiasts found it already described and pictured in Dioscorides' wonderful book!

In the year A.D. 131, Galen was born in Asia Minor. He was a remarkable genius, brilliant, and of vast learning. He was the first eminent writer after Hippocrates who ventured to suggest changes in the methods advocated by the Father of Medicine. He wrote a full commentary on Hippocrates' works, and added numerous new views which were subsequently in practice until modern times. According to Galen's theory, disease is due to an excess of heat, cold, dryness or moisture; and this idea prevailed for 1400 years. Galen described 800 medicinal plants, minerals and animal substances.

About this time—a little earlier in fact—Pliny the Elder wrote in Rome. His works are a vast encyclopedia, a storehouse of all science, natural and philosophical, as well as medical, which existed at his time. His

writings display a marvellous industry and great ability.

Other writers who flourished about this time were, Oribasius, Aëtius and Paulus Aegineta, the last especially introducing many valuable new drugs.

But the theories advanced by Hippocrates and Galen were so well grounded, and held in such esteem, that no changes were made in medical practice even after some of their absurdities had become recognized.

From the fifth to the tenth centuries medical knowledge in common with all sciences in Europe felt the depressing, almost annihilating influence of the Dark Ages. But during this time great progress was made in the East. The scene of medical advance shifted from Europe to Asia. And we find that in the dark period of one continent's history, the light is shining most brilliantly in the other. Our attention is called to Persia, and especially to Arabia. Here under the fostering care of favoring caliphs all learning is stimulated, colleges and libraries are established, the best teachers and most noted men are induced to come to Bagdad, the great center of progress. So great was the impulse given to science of all kinds, that no less than 6000 medical students and teachers were in Bagdad at one time. Under such favorable auspices it is no wonder that some of the most renowned names are those of Arabians. The mention of a few will suffice: Geber, A.D. 702, was the first chemist. Rhazes (died A.D. 923) wrote, among other works, ten books on chemistry. His writings on small-pox and measles are very accurate descriptions, though they are the earliest works on those diseases. Serapion, A.D. 742, was eminent both as an original writer, and on account of his compilations. Ali Abbas, A.D. 994, wrote the earliest work on diet. But the greatest of all was Avicenna (A.D. 998), called the prince of physicians. He has been compared on account of his genius and learning to Galen and the philosopher Aristotle. He was the last eminent physician born in Arabia. But already the Moors were developing a great center of high civilization in Spain, whither the glory of the Arabians was soon to be transferred. Cordova became the greatest medical school of the world, and for several centuries its pre-eminence was undisputed. In the 12th century in Spain there were seventy public libraries which had been established by the

Moors, and up to that time more than three hundred medical writers had come from this remarkable people. First among these eminent names is that of Albucasis (died A.D. 1122). He was a most renowned surgeon, and for many generations his writings on surgery formed a text book for teachers as well as for students. Avenzoar (A.D. 1169) was noted for his accuracy of description. It is said that he was the first to describe pericarditis, dropsy, and empyema.

Another noted Moor was Ebn Beitas, who wrote on botany. He was the last physician of note among his people.

With regard to the Arabians and the Moors it may be said that their chief contributions to medicine were in the domain of chemistry and pharmacy. In other directions they did little more than to translate Greek and Latin works. Their one surgeon, Albucasis, stands pre-eminent, and many centuries passed before his successor appeared. The overthrow of Mohammedanism in the west marked the downfall of learning in the centres of Spain. The colleges and libraries were destroyed, and eminent teachers driven from the country and scattered never again to be brought together.

During the period of Arabian and Moorish pre-eminence, in other parts of the world the practice of medicine was in the hands of the monks, who engaged in the work as an act of religious duty. But their practice was characterized by the grossest fanaticism and the most absurd performances. The bigoted monks scorned to learn anything from the heathen Mohammedans, even though they might thereby more certainly relieve the sick. As a consequence their medical practice consisted chiefly of a resort to prayers, with the employment of relics of martyrs, and holy water. They were in fact "pious and fanatical nurses."

In the latter part of the eighth century the emperor Charlemagne gave learning a powerful impulse by founding schools, endowing libraries, and bringing to his country the best teachers that could be procured. It was in the year A.D. 805 that the emperor ordered medicine taught in the various schools and some of the cathedrals which he had before this established in France. But the impulse to learning given by Charlemagne was not permanent, and before three centuries had passed medical practice was regarded so low and disreputable, that

the clergy, especially of France, were forbidden to practice the art.

Nuns also engaged in the healing art as an act of charity. Hildegard (1098), abbess of a convent near Bingen, "Bingen on the Rhine"—was so successful in the application of remedies to the cure of disease, that she has been numbered among the saints. Though she was consulted upon medical questions by some of the highest clergy in the land, her *materia medica* contains some very strange and absurd drugs. Thus, for the cure of witchcraft she employed fern; for itch, herring; and for various skin diseases, the ashes of flies.

The Benedictine monks in Italy advanced medical knowledge very considerably, but still superstition of the grossest kind abounded. Strange theories and philosophies had been introduced from the East through the crusades, and it was impossible to eradicate these from the practice of medicine. The phases of the moon, planetary conjunctions, and various similar astrological conditions, were believed to be essential considerations in the treatment of disease. Kings were thought to be endowed with the healing touch. Such diseases as goitre and scrofula yielded instantly to their magic power. For this reason the latter disease became known as the king's evil, for the king alone could cure it.

The beginning of the fourteenth century was characterized by an event which indicated a spirit of progress, and as a matter of fact, was a most important factor in the subsequent development of anatomy. In the year 1315, Mondini di Luzzi dissected a human body before a class of students—the first dissection, it is said, which had been made in seventeen hundred years. With the old Greeks dissection was forbidden for the reason that they supposed the soul of a person who had died was compelled to wander about the river Styx until the body was buried or burned, consequently speedy burial was always religiously enforced. The religion of the Mohammedans also forbade human dissections. Through these causes it came to pass that so many centuries elapsed before an instance of human dissection occurred.

Mondini's description of his dissection was used for several centuries in the medical schools. But those old teachers had a strange way of teaching practical anatomy. A barber's boy dissected the body, while the professor read from Mondini's book the

description of various parts. Nevertheless anatomical knowledge progressed very favorably. But in the other departments of medicine advance was slow, impeded as it was by the foolish notions of science which had been brought from the East. Even in the fifteenth and sixteenth centuries medical practice was tainted with the absurdities, astrological and others, which through Moorish supremacy and the influence of the Crusades, had become deeply rooted in Europe. However, the injurious effects of these blighting influences gradually disappeared, and towards the close of the sixteenth century considerable scientific progress was noticeable, particularly in the department of *materia medica* and pharmacy. More careful translations of the old writers were made, schools and colleges were established, and new theories began to be introduced which ultimately took the place of the antiquated notions based on false science.

Among the other noted writers and teachers who came into prominence about this time was Paracelsus. He was probably the most celebrated and arrogant quack that ever lived. In the frenzy of his boasting he declared that as Hippocrates embodied the genius of Greece; he himself embodied that of Germany. He burned the writings of his predecessors, claiming that he had more knowledge than was found in all the universities of the land, and that the hairs of his head were wiser than all the doctors who ever lived! His real name was Hohenher, which was much too humble for him, so he assumed one in keeping with his character—Phillipus Aureolus Theophrastus Bombastus Paracelsus! And by the last section of this high-sounding name he is known in medical history. His overbearing boastfulness can in a measure be pardoned when we remember that he contributed considerably to medical progress by bringing into a more favorable view certain mineral remedies which he used.

Toward the close of the sixteenth century many great physicians lived, both as teachers and writers. Sylvius was one of these, the true founder of anatomy in France. He was the first man to inject the blood-vessels. Vesalius, too, lived at this time, a most accurate and painstaking anatomist; and Eustachius, Fallopius, Fabricius, and Servetus, all of whom made valuable discoveries in the field of anatomy,

and laid the foundation for the most important event in the medical history of any age, namely, the immortal Harvey's discovery of the circulation of the blood, which ushered in the seventeenth century.

From this time forth, medical knowledge was established upon a more rational, scientific basis.

Then the great Malpighi, of Bologna, lived and contributed to medicine the results of his investigations with reference to the blood corpuscles. As a result of the work of these eminent men, anatomy and physiology received a most favorable impetus, and to the present day their progress has continued unchecked.

But the science of diagnosis and treatment of disease had been still retarded by the same old false notions derived from the East, and made still worse by the ideas inculcated by such men as Paracelsus and the sect called Rosicrucians. The Rosicrucians held that all diseases could be cured by faith and the imagination without the employment of drugs. They claimed that a certain magnetic or mesmeric influence passed from the true Rosicrucian into the patient and thus cured him; even the simple glance of his eye was sufficient to banish the severest malady. At the same time, notions of astrology, witchcraft and other absurdities still prevailed and pervaded science. The "Sympathetic Powder" illustrates the strange credulity and superstition of the time. This powder healed the wound, not by being applied to it, but to the weapon that caused the injury. Hence it was firmly believed that if a man was stabbed he would recover rapidly if the powder was put upon the dagger and changed twice a day, while the wound itself was let alone altogether.

You must not imagine that such pitiable credulity was confined to the remotest ages, for Sir Kenelm Digby's sympathetic powder was a popular remedy only two hundred years ago. We can certainly agree with Dr. Oliver Wendell Holmes who says: "Man is a gullible animal, and likes to be humbugged."

Toward the close of the seventeenth century accurate knowledge began to triumph over crude theories and superstition, and many noted men came into view—Wharton, Willis and Steno, Bartholin, Spigelius, and the great Ambrose Paré, surgeon to four successive French kings; then Boerhaave lived, and Schneider and

Glisson, and greater than these, Sydenham "the English Hippocrates."

And in the eighteenth century we find the eminent names of Hunter, Jenner, Lieberkuhn and Cullen. Stahl and Hoffman brought forward their theories of medicine; Morgagni, Pacchioni and Baglivi were names which Italy gave to the eighteenth century; Meckel, Baudelocque and Scarpa, and many others of almost equal note, lived at this time.

I shall not attempt even to name the mighty men whom the nineteenth century has given to the world; time would fail me, and your patience has already been taxed too long. It is safe to say that in fifty years alone the progress of medical science has done more to benefit mankind than all the centuries before accomplished; the advance in pathology, in diagnosis, in therapeutics, of a single generation has been marvelous; every year adds more to medical knowledge than man's mind can grasp. We are practicing to-day upon a scientific basis—at least, we think we are—but who can say how it will look a hundred years from now? I believe many of our most cherished methods and favorite medicines will then seem as improper and irrational as salivation and blood letting appear to us to-day. It was only a hundred years ago that the great Dr. Rush gravely declared that "salivation has cured many cases of consumption." Less than forty years have passed since one of the most eminent writers of our country said, "In pneumonia the most effective weapons are blood letting and tartar emetic." Such ideas as these, advocated by the leading men of their times cause us to look with pity upon their unscientific methods. But what will another generation say of our practice? We have only to bear in mind the past in order to realize how errors to-day unsuspected will be revealed by the brighter light of the years to come.

FORMULA FOR GONORRHOEA.—Dr. O. C. Smith contributes the following in the *New Orleans Medical Journal*:

- R. Hydr. bichloridi, gr. $\frac{1}{4}$.
 Mucil. acaciæ, 3j.
 Aq. dest. q.s. 3 iv. M.
 S. Two syringefuls after urinating.

AN Exchange says: "A widow shot herself in the Oil region, the other day."

Society Reports.

ACADEMY OF MEDICINE.

Meeting of September 15, 1884.

W. H. WENNING, M.D., G. A. FACKLER, M.D.,
Pres't in the Chair. Secretary.

Elephantiasis.

DR. RAVOGLI reported a case of elephantiasis of the right leg, the calf measuring 3 ft. 4 in. in circumference. The limb was invaded from the foot to the groin. The patient was otherwise in good health, weighing 300 pounds, of which 180 pounds could be credited to the hypertrophied leg. Speaker had endeavored to obtain photographic views and microscopic specimens, after the death of the patient, which occurred Sept. 7, but the relatives refused.

The disease is known under various titles, viz., elephantiasis Arabum, pachydermia, elephantopus, hypersarcosis, etc. The Arabs described this affection under the name of "dalfil," which may be literally translated "disease of the elephant" or elephantiasis.

At the same time the Greek physicians Lucretius, Areteus, and Galenus described under the name of elephantiasis another affection endemic, dyscrasic and fatal, which attacked the skin, mucous membranes and internal organs under the form of tubercles, spots and ulcerations. Henceforth two different diseases were described under the same name, one local, without consequences upon the general system, the elephantiasis of the Arabs; the other dyscrasic endemic, the elephantiasis of the Greeks.

It may be further observed that the Arabs had already described the elephantiasis of the Greeks under the name of "turzain," which was translated as lepra. The Greeks had described under the name lepra a squamous disease, local in character, which was only a psoriasis. Therefore two additional names appeared in medical books, generating confusion, lepra of the Greeks and lepra of the Arabs.

These names must not give rise to the idea that these diseases are national property, but the names were retained on account of the description of the respective diseases by the Greeks and Arabs.

Until the time of Willan nothing interesting is found on the subject. Willan called lepra of the Greeks a kind of psoriasis, and after him in England it was known under

the name of leprosy, and under the name of Arabian leprosy was confused with elephantiasis of the Arabs and elephantiasis of the Greeks.

Fuchs in 1840 gave the name pachydermia to the elephantiasis of the Arabs, and Hebra separated positively one disease from the other.

The works of Danielsen and of Boeck on the spedalskhed exactly explained the elephantiasis of the Greeks, and the elephantiasis of the Arabs was thoroughly treated by Bruner, Bayer, Rigler and Hirsch. Elephantiasis is not epidemic nor contagious, and is not exclusively found in tropical climates. It consists in an exaggerated hypertrophy of the subcutaneous connective tissue, limited to one region of the body, due to an inflammation of the lymphatic vessels and veins, chronic in course and often repeated.

The disease attacks preferably the legs, spreading to the thigh, invading it up to the groin, as in the present instance. Not unfrequently do we see elephantiasis of the scrotum and penis in man, and of the labia majora, minora and clitoris in woman. It has rarely been observed on the superior limbs and on the ear.

Elephantiasis begins on the leg with symptoms of erysipelas and dermatitis; the leg swells up, the skin appears red, shining and painful, accompanied with fever. The fever and inflammatory symptoms subside, and oedematous swelling remains. Every two or three months the inflammation of the lymphatic vessels recurs, and each time the oedema increases, and the limb augments in volume, and acquires a peculiar hardness. The skin is now stretched, shiny, very pale, or sometimes of a red violet color, and pits on pressure. The glands of the groin swell enormously in consequence of these attacks of lymphangitis, so that Hendy called it disease of the glands of Barba-does.

After some years the skin and connective tissue undergo an enormous development, which affects also the aponeuroses, the intermuscular fasciæ, the walls of the vessels, and even the periosteum. The leg resembles that of an elephant. Near the ankle the skin is thrown into folds.

The case under consideration presented every variety of elephantiasis. The inferior third of the leg was heavily pigmented and covered with scabs. On the calf the skin was red-violet, and a second attack of lymph-

angitis covered it with blebs. In many places the skin, denuded of epidermis, showed the papillæ enormously swollen, so as to resemble a raspberry. The patient did not suffer except from the weight of the leg, which, however, did not prevent him from playing base ball. Many times while playing he injured the back of the leg, and brought on a new dermatitis.

On cutting through the affected tissue, it appears filled with a gelatinous, lardaceous mass, and on squeezing there exudes a yellowish serum which coagulates on exposure to the air. It is difficult to recognize the tissues among the mass, and all seems converted into connective tissue. The muscles are changed into a yellowish homogeneous mass. The bones are enlarged, covered with exostoses, and sometimes necrotic. The intercellular fluid contains abundant fibrin, nucleated cells like lymph corpuscles, and some spindle cells, elements of young connective tissue, such as we find in very chronic oedema.

The sebaceous and sweat glands are sometimes unaltered, sometimes atrophied, on account of the pressure from the hypertrophied connective tissue.

The arteries and veins are increased in calibre, the walls sometimes thicker, sometimes thinner; some are filled with pigment, others are obliterated with fibrinous coagula. The lymphatic vessels and lacunæ show enormous dilatations, which extend from the subcutaneous tissue into the papillæ. In many places they are like cysts, limited by young tissue.

The lymphatic glands of the popliteal region and of the groin are enlarged, and in the central oculæ there are new cellular elements.

From the brief sketches of the anatomical alterations it is clear that this disease is nothing else than an hypertrophy of the connective tissue in consequence of the repeated chronic inflammations of the subcutaneous tissue. The pachydermia is not always the result of an active inflammation, but also a passive oedema is sufficient to produce it, as in it the serum cells exist capable of development. In consequence of venous stasis, due to varicose veins, the hypertrophy of the connective tissue can follow. Auspitz (1) tied the ear of a rabbit for twenty-

four hours, and in the microscopic specimens he found lymphoid corpuscles furnished with one or more nuclei, having appendages, which gave him the idea of the segmentation of the nuclei, hence the multiplication of the same corpuscles.

But I could demonstrate (2) to the satisfaction of all that the corpuscles of the connective tissue in inflammatory conditions are enlarged, returning to their embryonal state. These corpuscles, enormously enlarged, with many nuclei, united to one another by means of their appendages, are sufficient to constitute the cause of the hypertrophy of the skin.

From what I have said, it is easily understood that causes of elephantiasis are all those which cause slack in the circulation of the blood and stasis of the fluid. Therefore, chronic eczema, varicose veins, extensive scars producing compression of the blood vessels, causing oedema; also bad callous, in consequence of fracture, exostosis, etc.; Hendy believes the infiltration, the sclerosis, and the obliteration of the glands of the groin.

No influence upon elephantiasis is exercised by heredity, sex or climate.

In the case which demands our attention it is remarkable that the elephantiasis began in early childhood, which fact is generally very rare. The patient failed very rapidly. He was relatively in good health twenty-four hours before he died. The cause of death in this case may be attributed to the severe lymphangitis, which caused a large amount of the lymphatic element to be absorbed, resulting in a kind of pyemia. But I would be much more inclined to admit that an embolus was the direct cause of death. The tunics of the arteries and veins take part in the change.

When the speaker was called to see the patient his temperature was 99° to 100°, he was sweating profusely, pulse low, face and hands cold and cyanotic. He complained of pain in the abdomen. His breathing was labored.

In regard to treatment of elephantiasis, the attempt has been made to tie the crural artery, but every attempt was followed by a fatal result. Amputation could not be resorted to because the limb was involved to its full extent. The rubber bandage was applied, but it was painful, produced blis-

1 Über die Venöse Stauung in der Haut, Wien, 1874.

2 Ravogli. Die Entwicklung und die Vereiterung der Cutis, Med. Jahrbücher, Wien, 1879.

ters and had to be removed. In the beginning of the disease much can be accomplished. Hebra's method is the most successful. The limb must be constantly enveloped by a bandage and unguentum cinereum applied to produce absorption of the lymphatic elements, or keep the limb wrapped in a sheet, saturated with warm water. Cold water is not advisable, since it produces induration.

CINCINNATI MEDICAL SOCIETY.

B. STANTON, M.D., W. H. M'REYNOLDS, M.D.,
President. Secretary.

DR. DUN reported the following case of
Severe Shock from Electricity.

A. H., female, aged 23, single, clerk, nervous temperament, good family history. Had been sick for several months with nervousness brought on by overwork. Very strong will, and is energetic and ambitious. Is head girl in one of the large retail establishments of the city, and operates the new cash carrier-ball system at the central office.

On May 28th, about 5 p.m., while operating, the wires of the electric light became crossed with those of the cash-ball system, and she received a severe shock from the electricity. I was summoned immediately by telephone, and arrived about ten minutes after the accident. I found her in the following condition:

Circulation.—Face and surface of the body were very pale. Hands, wrists, forearms and feet were cold and bluish, and in a cold perspiration. Pulse 54 per minute, was counted at the wrist, was feeble and irregularly intermittent, sometimes missing two beats together.

Respirations were also irregular and intermittent. Two or three deep breaths being followed by a long pause, and that in turn being followed by a series of short, rapid, insufficient attempts at breathing, and then another pause. These pauses were very long, and often the first respirations following it were in the nature of gasps.

Brain.—Eyes were fixed, pupils dilated, and either inactive to light or extremely sluggish. The play of mental manifestations was very interesting. At first periods of calm and excitement alternated. The periods of calm were not attended by any visible signs of consciousness, while during the periods of excitement, crying and complaints of burning pains in the hands and

arms, accompanied with wringing of the hands were manifested.

The periods of calm gradually vanished, and then the whole state passed into one of lucid intervals and incoherent talk. The first sign of a lucid interval was about half an hour after the shock. These intervals of reason became longer. She reasoned aloud, and arrived at reasonable conclusions opposed to the wild ravings, and then wondered how she ever made such a statement. The incoherent periods became shorter and shorter, and finally passed into intervals of excitement alternating with spells of crying and laughing, occasionally becoming incoherent again for a few seconds. These became shorter and shorter as her general condition improved, until she was completely at herself. It was soon noticed that by keeping the mind occupied during the lucid intervals they could be greatly prolonged; and similarly, if kept busy laughing the emotional periods could be prolonged, and the incoherent intervals shortened. At 5:45 she had a severe chill, but rallied under treatment and was taken home about 7 p.m.

This case represents a class of cases which we may expect to see more and more of, now that powerfully charged wires of the electric lights are more liable to come in contact with persons. The case is also of interest because of the unique play of mental symptoms, and the effect of treatment.

The first indications were directed to the circulation. She was laid flat on her back, and covered with as warm clothing as could be obtained. Whisky and digitalis were given by the mouth with good effect upon the irregularities and intermittence of the of the heart. The pulse continuing feeble I gave twenty minutes later ammonia in whisky, which seemed to have the desired effect of strengthening the pulse almost immediately. The hands and feet became warmer, the surface assumed more color, and the bad symptoms of the brain and circulation disappeared. The pulse was now 84, strong and regular. The mind had become normal, and she walked to a carriage with little difficulty, complaining of numbness of the hands and forearms, with little power over the muscles. There were burns on both hands where the wires touched them, and blebs formed. During the night she had another, though milder, chill, and was sleepless. Next day vesicles appeared on both the palms, and pain was felt in

the forearms and hands. These subsided, and her recovery has been steady, and is now almost complete. She still has irregular, jerky or weak action of the muscles of the right arm, which was most noticeable when writing, and she says she still feels the effects of the shock on the nervous system, it being particularly noticeable during the violent thunderstorms of the last few days. To all outward appearances, all that is left are the burns and some muscular weakness.

The case was undoubtedly one of severe shock, and called for the usual indications for that condition, and though for a time grave, it has ended happily, and illustrates what I often noticed at the Cincinnati Hospital in the sunstrokes during the summer of 1881, viz., that for an irregular or intermittent heart digitalis is the best remedy, while for increase in force nothing equals ammonia in some form or other.

From an eyewitness I learned that she was seated on a high stool when she received the shock, uttered a piercing cry, and fell to the floor. When they reached her she was unconscious.

DISCUSSION.

DR. DAVY asked the reader how much digitalis he had given.

DR. DUN replied that he gave a drachm of the tincture, and the result was satisfactory. In this state of the circulation absorption is slow, and large doses are demanded in order to get the effect soon. He would have given a third of a grain of digitaline hypodermically, had it been at hand, and repeated it after an interval if required.

DR. STANTON said he believed digitalis failed often in these cases of sunstroke as it was not given in large enough doses. He had often used ziss doses and once had given 3ss.

DR. JOHN L. DAVIS reported the following case of

Difficult Labor.

I desire to report an instructive confinement case in which the presenting parts were the right foot and left hand. Last Saturday evening at 8 o'clock I was summoned by my friend, Dr. Cassat, to assist him in the delivery of a woman who had been under the charge of a midwife until it was found natural delivery was impossible; and then the doctor was sent for by the woman's friends.

We found the woman (a primipara), of medium size, well developed and nour-

ished; and though she had had severe labor pains for twenty-four hours, she was strong and gave no indication of exhaustion. Pulse rate 94. The membranes had ruptured several hours before we saw the patient. Upon auscultation the fetal heart could be heard beating about three inches to the left of the woman's umbilicus and on the same level. Rate 150, regular, but faint.

Upon digital examination the right foot and left hand were found presenting; the foot as low as the outlet of the vagina, the hand not so far down. The os uteri was almost completely dilated and uterine contractions were occurring as often as every five minutes, and were aggravating the malposition.

It was decided, if possible, to replace the emerging hand, and to deliver by podalic version. Accordingly, while I administered ether, both to prevent the woman from suffering and to relax, as far as might be, the uterine contraction, which was becoming of a tonic character, Dr. Cassat, with great difficulty, replaced the hand and endeavored to bring down the left foot. The latter operation was attended with exceeding difficulty, owing to the high and unusual position of the limb—a position readily demonstrated after the child was born, but which would hardly have been imagined before. The peculiarity consisted in rotation of the left thigh inwards through an arc of almost 180 degrees; then the knee was strongly flexed upon the thigh and the foot was pressed against the left side of the child in such a way that the outer surface of the foot was in contact with the body. A more complete rotation, or one more calculated to obscure a diagnosis, could not have occurred even with a dislocation or fracture.

As a result of this singular position, it was difficult at first to recognize the limb; and it was anything but easy to bring down the foot after its identity was established. However, this was finally accomplished; but, by this time, the uterus had become firmly contracted about the head and upper part of the child's body; and the deepening cyanosis of the child's lower extremities portended a fatal issue. The greatest possible expedition was made; the arms were brought down—the right, the posterior, first, and as soon as could be, the left. The woman, in the meantime, was kept under ether by each of us in turn as the

other endeavored to hasten the delivery. Finally, the body of the child was withdrawn, though not without great effort. But the head was so completely enveloped by the contracted uterus that our united efforts were required in traction. After fully twenty minutes more of intermittent traction we succeeded in withdrawing the head. The whole operation had lasted two hours in spite of every effort on our part to facilitate matters. The child was dead, from pressure on the cord. The woman was exhausted, naturally, though she is now doing as well as could be desired. The perineum was but slightly torn, not over one-third of an inch.

I report this case in order to receive any suggestions as to how our methods might have been modified to the benefit of either mother or child. The time consumed in the operation, two hours, appears to be very long; though the methods resorted to are advocated by the leading obstetricians, as far as I am aware. I should certainly be glad to receive any suggestions as to the management of such a case in the future.

DR. TAYLOR said it was useless in cases of this kind to attempt to return the hand, because, in turning, as the foot is brought down the hand ascends and the arm and hand follow of course. The speaker referred to a case he had seen with Dr. Brühl where both arms were in the vagina. The patient had been in labor about three days. The delivery was effected by turning. He also mentioned another case seen at the hospital, in which the hand and foot were at the os and the cord pulsating. In this case delivery was effected by version and the child lived. In these cases profound anæsthesia is required. This does not fully overcome the rigidity, but comes nearer doing so perhaps than anything, unless it be a hypodermic injection of atropia and morphia given previous to administering the anæsthetic.

DR. GOODE asked the essayist if the midwife had not been pulling on the leg before he saw the case.

DR. DAVIS replied that the midwife had been in charge of the case twenty-four hours when he saw it, but he could get no reliable account of what she had done.

DR. TAYLOR asked if any gentleman knew of the prevalence of puerperal fever. He had seen three cases recently, one in Clifton, one on Mt. Auburn, and one in

Avondale. These three cases, at remote locations and under the care of different practitioners, would seem to point to some epidemic influence. He had also heard that erysipelas was prevalent in the surgical wards of the hospital.

AMERICAN GYNECOLOGICAL SOCIETY.

The ninth annual session of this Society was held at the Palmer House, Chicago, beginning at 10 A.M., Tuesday, September 30, 1884, to continue three days.

The officers of the Society are:

Dr. Albert H. Smith, of Philadelphia, President.

Drs. James R. Chadwick, of Boston, and Samuel C. Busey, of Washington, Vice Presidents.

Dr. Frank Foster, of New York, Secretary.

Dr. Matthew D. Mann, of Buffalo, Treasurer.

Drs. Gailard Thomas and Fordyce Barker, of New York, R. Stansbury Sutton, of Pittsburg, and Thaddeus A. Reamy, of Cincinnati, Members of the Council.

Among others present were noticed the following gentlemen during the forenoon session of the first day:

Drs. Wm. H. Baker, of Boston; D. Bernard Browne, Baltimore; Alexander Dunlap, Springfield, O.; Geo. J. Engleman, St Louis; Wm. T. Howard, Baltimore; Edward W. Jenks, Detroit; Richard B. Maury, Memphis; C. D. Palmer, Cincinnati; John C. Reeve, Dayton; John Scott, San Francisco; Ely Van De Warker, Syracuse; Henry P. C. Wilson, Baltimore; Paul F. Mundé, New York; W. L. Richardson, Boston; John H. Rauch, Springfield, Ill.; Wm. H. Byford, A. Reeves Jackson, E. Warren Dwyer, W. W. Jagard, Chas. W. Earle, Wm. E. Clark, Wm. P. Verity, Phillip Adolphus, Chr. Fenger, T. P. Seely, Homer M. Thomas, Henry T. Byford, Daniel T. Nelson, E. C. Dudley, Hosmer A. Johnson, and Liston H. Montgomery, of Chicago.

President Smith called the meeting to order and introduced Dr. W. H. Byford, who delivered the following

Address of Welcome.

Mr. President and Gentlemen of the American Gynecological Society:—In accordance with the request of the Committee of Arrangements, I greet you as the guests

of the Chicago Gynecological Society, and of the general profession of this city. Many of the distinguished members of your Society visit Chicago for the first time, others have honored us with their presence many times in the past. The former, however, are not strangers to us; their good works in the profession have sent their fame before them. The latter are familiar to us in person as well as in renown. Your meeting here has been anticipated as a source of great pleasure as well as profit, and we desire to welcome you in such a manner as to make you feel entirely at home. We assure you that anything we can do to make your stay enjoyable will also give us pleasure, and I doubt not that every citizen of Chicago whom you meet will manifest the same desire.

Within the memory of many of you Chicago was but a village situated on the borders of civilization; now it is a city of marvelous growth, and occupies the centre of population of our great continent, and wields a great influence on the commerce of the world. Although very different from the older cities familiar to you, you will find in it so much to interest you that we venture to hope that you will be detained sight-seeing much beyond the time allotted for the scientific and business purposes of the meeting. The longer you remain with us the greater happiness we shall derive from your presence.

Since the organization of this Society some of its most illustrious members have gone to reap the reward of their benevolent, faithful and excellent labors. In the short time which has elapsed since we last met our leader has fallen. He whose brilliant achievements crowned him with a halo of glory such as seldom adorns the brow of mortal man, has been called to his immortal heritage. The name of J. Marion Sims will ever remain embalmed in the history of the profession he loved and served so well. His example has been to many of us, as it will be to those who come after us, a stimulus to great efforts in behalf of suffering womankind. In the light of faith he is not lost to us, but stands on the beautiful shore beckoning us to immortal deeds. We cannot again feel the warm grasp of his hand, but we may follow in his footsteps.

In the presence to-day of so large a number of the fellows of the Society at this meeting we see the promise of

much good scientific work and delightful social enjoyment. Again allow me to welcome you to the hospitalities of Chicago. To each of you we tender the freedom of the city.

The scientific proceedings of the forenoon of the first day may be seen as follows:

Moot Points in Regard to Inversion of the Uterus. By DR. JOHN C. REEVE, of Dayton, O.,

Which evoked a good deal of discussion, as follows:

DR. JOHN SCOTT's experience in the treatment of inversion of the uterus was confined to two cases. The first case he saw when he was a young man, and he speedily reduced the inverted organ. The other case occurred last year in San Francisco, and presented several interesting features. The history of the case when it came to him, was as follows:

The labor was not lengthy, the child was born with no untoward symptom. The physician attending her did, however, to some extent drag away the placenta, when after some time there suddenly occurred a gush of blood which was not prolonged; hemorrhage occurred off and on at intervals of every three or four weeks. He tried to replace the organ and failed, and thought possibly in time it might right itself. He called no one in consultation, and used the ordinary means to arrest the attacks of hemorrhage. He was in due time compelled to leave the city, and requested a friend of his to attend the case, who also felt, as the speaker said, the lump or swelling in the vagina. The woman was getting weaker from loss of blood. She was suffering from pain in her back; she had impaired appetite, yet she suckled her child. Another physician saw the patient, he, too, recognized the lesion; each of these gentlemen failed to reduce it. And thus matters stood at a period of seven months, when also complete retroversion had occurred, with abatement of hemorrhage. The dragging down sensation had increased, the retroversion that existed also increased, and at the eighth month the baby was weaned, and hemorrhage again set in.

At this time Dr. Scott returned to the city and was called to attend her. The uterus was not very large, it was soft and fleshy, and by firm pressure with his right hand for twenty minutes he succeeded in repositing the womb; in doing so he felt the circular fibres tear. After the womb

was placed in position he could insert his whole hand into it. Complete version existed. The position was very extraordinary. The os uteri was very patulous; he could introduce four fingers of one hand into it, and this he did, day after day. No more hemorrhages occurred, and the patient was comfortable; the organs did not contract. He made topical applications of iodine, and the patient used hot water injections for three weeks, when her menstrual period came on, and was unusually severe. How to control it was the uppermost thought in his mind, and if he were to do so would cellulitis be likely to set in? The use of hot water was still properly continued, as was also the use of astringents. The hemorrhage continued ten days, and after it ceased examination revealed the os to be as patulous as it was previous to her period of menstruation.

After a day or two he made another examination, no change had occurred. He was puzzled what mode of procedure to undertake, so he introduced two silver sutures to draw the os together, cellulitis followed. The lady ultimately, after a tedious run of this inflammatory condition, recovered perfectly.

He inquired of the fellows if a persistent patulous condition of the uterus as was present in his case could have been otherwise treated.

DR. W. H. BYFORD said it was difficult to comment on the paper within the range of discussion as should be done. His experience in this condition was limited to nine or ten cases, two or three of which were acute. In the winter of 1870, while attending Mrs. S., a Jewish lady, multipara, as it was her second child, this abnormal condition of the uterus came on.

Briefly then the speaker recited the details of the case, for it was published years ago in one of the journals on obstetrics. In this case the labor was not remarkable, no accident or other untoward circumstance occurred. He examined the uterus through the abdominal wall and found it in position and shape. There was no hemorrhage, nor symptom that such was threatened, nor any circumstance that led him to suspect inversion. She was confined in bed four or five weeks.

About two months after her confinement Dr. Byford visited California. During his absence a German physician was called to see the woman and found a complete in-

verted uterus, as the speaker was informed upon his return to the city. He could hardly believe it, for, if it were true, could it be possible that he had overlooked it? As it was possible to have occurred during the first weeks after her confinement, he was careful, and he remembered in examining the hypogastric region of the patient and found the organ in proper position and firm. There was no symptom indicating such trouble as inversion directly after labor. The patient nursed her child and nursed it until within two weeks of the discovery, and not until after weaning the child was there any trouble suspected or symptom that inversion had occurred.

Regarding the treatment of the case at this date, Dr. A. Fisher (now deceased) was called to attend her, and soon after Dr. N. S. Davis and Dr. B. McVicker were called in consultation. As the first gentleman found no symptoms to indicate inversion.

Dr. D. Bernard Brown treated a case of version last year. The lady had previously been treated by a competent physician, who had pronounced everything all right. On the ninth day severe hemorrhage came on, resulting in syncope, and version occurred from below upward. The cervix was lacerated. The placenta was easily removed at the time, without traction on the cord. As the author of the paper did not speak of the treatment of this trouble, the speaker would add nothing more.

Dr. Alexander Dunlap remarked that the subject has not been brought forward in the paper to partake of the scope of discussion he would like to see and hear. He had seen two cases of inversion, one of which he treated several years ago, a chronic case of a duration of a year or more. The attending physician had been censured, and the patient was in a frame of mind to change physicians. The woman had been easily delivered of a healthy child, but traction was used in delivering the placenta. The patient did well for a short period, when continuous hemorrhage set in. It was difficult to control. Digital examination of os and neck revealed considerable enlargement. The treatment to control the constant flow was continued some months before the fundus of the uterus was found presenting at the os and dilating it. The organ was soon turned inside out, and descended into the vagina. The progress lasted several months. The womb was of normal size.

Dr. E. W. Sawyer said the paper was of

special interest to him. He had had one case of inversion of the uterus which proved fatal. There are two points in connection with this difficulty that he noticed particularly in his case also. First was the unusual distension of the uterus at the time of labor, and second, the enormous amount of amniotic fluid. He at first thought the case was one of multiple pregnancy. The labor was normal and rather short, though the uterine contractions were feeble. After the body of the child was born the quantity of amniotic fluid that escaped was so great as to flood the bed. The uterus was flabby. He placed his left hand on the patient's abdomen, and with his right hand made slight traction on the cord to deliver the placenta. After its removal the symmetry of the fundus was observed to be round, and reaching high up into the abdominal cavity.

After the placenta had been delivered five minutes, he placed the hand of her husband on patient's abdomen to compress the womb gently and firmly, while Dr. Sawyer attended to the superintending of changing the bedding, as this had become completely saturated from the immense quantity of liquor amnii, when, with no premonition or warning, there occurred a great flow of blood. He immediately gave the patient a drachm of ergot, then replaced his hand where her husband's had been during the few minutes that had just elapsed. The fundus at once disappeared, the dimpling of the abdominal walls was confined to a very narrow limit of time, not to exceed ten minutes at the utmost; upon introducing his right index finger into the vagina, he recognized the rounded fundus looking through the cervix. No time was lost in the effort to replace the inversion. His fingers were too short to push the organ back with much force, and in ten minutes more the uterus had become hardened, or, as the speaker stated, it had become ergotized, and prevented replacement, although several attempts were made to do so. She immediately passed into a state of collapse and expired.

He was permitted to remove the uterus to ascertain the cause. The area of placental attachment corresponded to the right horn and upper part of the uterus. This portion was four times as thick as the rest of the organ and the inversion was caused by this more than from anything else, that is to say, from sheer force of gravity. He ergotized his patient to arrest

hemorrhage, this seemed to him to be demanded and required immediate attention and interference.

Dr. John Scott had listened with great interest to the paper, regarding the time of inversion after labor. If this occurred at once the physician would be blamed for it. His experience was limited to one case only, and this he saw six months after the inversion occurred, and he reduced it. *Causes*: Anything that causes relaxation of the uterus tends to produce inversion of the uterus, and this may occur at any time. Hemorrhages or mental strain during or after labor may be a cause, and it is likely to occur in from one to ten weeks, therefore anything that prevents the organ from drawing up to the normal condition, as over-exertion, or in a woman being on her feet too much, pressure on the abdomen, all these may produce inversion.

Dr. W. T. Howard stated that, according to statistics, the accident occurs once in 140,000 or 150,000 cases. He had seen three cases, the first of which had been attended by a midwife, who drew upon the cord. The woman was delivered on Wednesday, and Sunday night Dr. H. was called to see her; her pulse was 150, temperature 103°; he reduced it by manipulating the uterus pushing it up with the fingers of his right hand.

The second case was that of a delicate mulatto woman, who was nearly collapsed when he saw her, in consultation with his friend, Prof. C. Johnson. The woman's life hung, as it were, by a thread. There was a large fibroid of the uterus with two pedicles. The polypus was removed by an *ecraseur*, but the woman finally succumbed.

The third case of inversion he saw was where the case was brought to him. The prolapsus was reduced and the patient returned home.

He heard of a case last spring of a woman, sixty years of age, living forty to fifty miles from Baltimore, having an inverted uterus that had remained so for so long a time that no attempts were made at trying to reduce it.

Two cases that the speaker alluded to had borne children. He thought it was not always easy to diagnose inversion of the uterus.

Dr. Reeve closed the debate by stating he had nothing additional to comment.

The second paper of the forenoon,

"Foreign Bodies in the Abdomen after Laparotomy," was read by Dr. Henry P. C. Wilson, of Baltimore, which, with the discussion, will appear in next week's issue.

At 8 o'clock in the evening the Society, with invited guests, sat down to a

Well Prepared Banquet

at the Palmer House. The following toasts were given and responded to: "Our Absentees," by W. H. Byford; "Gynecology, its Relation to Science and the Good of Women," T. G. Thomas, of New York; "Our Nestor of Medicine, One Whose Honors Consist in His Works, One Who Never Drinks and yet is Never Dry," N. S. Davis, of Chicago; "The Obstetrician," J. C. Reeve, of Ohio; "Women," Dr. Howard; "Undertakers," Dr. Mundé; "Specialties in Medicine, Let thy Aim be Single," Ely Van de Warker, New York; "Babies,"

"Beneath this stone our baby lies;
He neither cries nor hollers;
It lived but one and twenty days,
And cost us forty dollars."

E. W. Jenks, of Michigan. "A Broken Reed,"

"I am a broken reed," he said,
"Do not on me rely,"

I said, "You must, dear Dr. Scott,
Indeed, you must reply."

John Scott, of California.

Abstracts.

OPHTHALMOLOGY, ETC.

[PREPARED BY DR. DAVID DEBECK.]

TREATMENT OF ULCER OF THE CORNEA.

Bruté (Rennes) contributes (*Recueil d'Ophthal.*, July) an article on this subject. In 1870 Sæmisch introduced his operation to the profession. This little operation consisted in cutting through the floor of the ulcer with a small knife, either with the one Sæmisch introduced for this purpose, or a Græfe cataract knife. After this the wound was kept open several days until the reparative process set in. Later DeWecker and others introduced eserine for these troubles. Its action in reducing intra-ocular tension relieving the weakened floor of the ulcer from dangerous pressure from within, lessening the danger of perforation, and thus placing the ulcer under the proper conditions for healing. Then several oculists of note made use of the

actual cautery in these affections. A metal hook or a small platinum loop heated to redness was gently swept over the floor of the ulcer, the necrotic tissue destroyed, and new conditions, favorable to prompt healing, established. Bruté, with a laudable ambition to let no good thing escape him, has combined all these. His treatment in these cases is first to make the Sæmisch incision through the ulcer; then to apply the cautery, not however sweeping the floor of the ulcer, but touching the ulcer at four or five points with a little pointed instrument heated to a red heat; then instil a solution of eserine; cold compresses or a bandage.

He reports four cases, typical severe cases, in which this treatment was followed by excellent results. Had he also, besides the above, simply dusted in iodoform, he would have combined in one happy family the therapy of the last decade.

PEMPHIGUS OF THE CONJUNCTIVA.—Steffan (Frankfort-on-the-Main) contributes (*Zehender's Monatsbl. f. Augenheide*, August) an interesting article on this subject, and calls attention to a possible relation between this affection and essential atrophy of the conjunctiva (the *syndesmifitis degenerativa* of Stellwag).

After mentioning the cases collected by Pflueger (in January, 1878, number of this same journal), he briefly reviews the more recently reported cases. The complete series includes fifteen cases, thirteen of which were found in patients with general pemphigus, either *vulgaris* or *foliaceus*. Of the other two cases, in one, the pemphigus foliaceus developed on the sides of the nose, spread to the left eye, and ended in xerophthalmia and loss of the eye upon this side. Later the affection spread to the lower lid of the right eye, without involving further the conjunctiva or eyeball. The eruption appeared in the pharynx and œsophagus also; then the further spread of the disease ceased. In the other case the pemphigus was confined to the nose and adjacent parts and to the mucous membrane of the lips. It spread to both eyes, ending in xerophthalmia.

Steffan's case was a 73 year old woman. When first seen she had some conjunctival inflammation and discharge in the left eye. There was a peculiar, consecutive, cicatricial process; some trichiasis with irritation of the cornea; the conjunc-

tival cul-de-sac gradually disappeared; at the inner canthus of the left eye the lids grew together for a short distance beyond the puncta. At this stage, the process remained stationary. During this time a similar condition developed in the right eye, only in a much more intense degree. Here the upper cul-de-sac also became slightly involved, with some slight trichiasis in the upper lid at the inner canthus.

The diagnosis of essential atrophy of the conjunctiva was made. First months after the beginning of the conjunctival trouble was the diagnosis cleared up by the appearance of most exquisite pemphigus bullæ on the skin of the eyelids. Without any other symptoms than a feeling of itching and burning the normal appearing skin would be raised into bullæ, filled with a straw-colored fluid. The largest of these reaching the size of a bean. These have not been very abundant upon the left lids, and the process seems to be at a standstill. Upon the right lids there has been, during a year and a half's observation a constant succession of these bullæ. Only once was a bulla observed upon the conjunctival surface, and then upon the atrophic, epidermic-like conjunctiva of the right lower lid. The process has been confined sharply to the area of the skin of the eyelids, only recently the pemphigus eruption also appearing in the pharynx and upon the epiglottis.

Steffan is of the opinion that this case throws the necessary light upon the few rare cases of essential atrophy of the conjunctiva that have been described; that in receiving this designation the process has been only *named* and not *explained*; and that these cases are really similarly obscure cases of pemphigus conjunctivæ.

LOSS OF HEARING FROM MUMPS.—Kipp, Newark, reports (*Archives of Otolaryngology*, June, 1884) two cases of this character. The first case, a young man of eighteen, had an attack of mumps, both sides, of moderate severity. During this, metastatic orchitis occurred as a complication, and while this was subsiding patient first noticed that he was totally deaf in his right ear. Appearances normal, and no sign of middle ear or tubal trouble. Only bone conduction remaining. No vertigo, slight intermittent tinnitus. Treatment of no effect, the ear remains deaf.

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Selections.

AN ADDRESS ON CHOLERA AND ITS BACILLUS.

Delivered before the Imperial Health Board
at Berlin, by

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[Continued from our last issue, p. 344.]

If one considers all the qualities of comma-bacilli that I have hitherto described, one must be convinced that they belong to a special well characterized species of bacteria; and that, by means of their characteristic qualities, they can easily be recognized and distinguished from other bacteria.

After obtaining this conviction, it was, above all, important to establish relations between the comma-bacilli and the real process of cholera; and, first I had to investigate whether they are to be found in all cases in cholera, and whether they are absent in other cases; that is, whether they belong exclusively to cholera. In this direction, as large a series of cases as possible was investigated. In Egypt, ten *post mortem* examinations could be turned to account. It is true these were only microscopically examined; for I was not then sufficiently acquainted with the qualities of the comma-bacilli, which they show while growing in food-gelatine, to be able to make use of the gelatine-process for proving the presence of the bacilli. But I

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was convinced by careful microscopic investigation of the presence of the comma-bacilli in all these cases. In India forty-two *post mortem* examinations were made microscopically and by cultivations in food-gelatine, and in no case were the bacilli absent. In a series of cases, which had had been very acute, an almost pure cultivation of comma-bacilli was met with in the intestinal canal. Further, in India, the dejecta of thirty-two cholera patients were similarly examined, and each time comma-bacilli were present in them. The liquid vomit of the cholera-patient was also often examined; but comma-bacilli were only found twice in the vomit, and in these the quality of the vomit enabled us to conclude that it was not properly the contents of the stomach, but the contents of the intestines, which had been driven up by the abdominal pressure, and evacuated. The liquid had an alkaline reaction, and looked exactly like the contents of the intestines. I have also found comma-bacilli in eight other *post mortem* preparations, some of which I had previously had sent me from India, and others I had received from Alexandria, from Dr. Kartulia and Dr. Schiess Bey. Finally, I recently made *post mortem* examinations at Toulon, together with Dr. Strauss and Dr. Roux; and in these cases also, as well as in the dejecta* of two patients, comma-bacilli were found. In these two *post mortem* examinations at Toulon, we had to do with exceptionally characteristic and acute cases. One of the men, a sailor, was to have been dismissed from the hospital on the same day, as convalescent from malaria; but this could not be done, for about eleven o'clock in the morning he had an attack of cholera. He died in the afternoon at three, and the corpse could be dissected by half-past three. I will here observe that, in almost all the cases examined by me, the *post mortem* examinations have been made a very short time after death. We have often made the dissections immediately after death; in most cases, two or three hours, at latest after death; so that *post mortem* putrefaction could not yet have the effect of changing the condition of the intestines or of its contents. In the case mentioned, as in those of a number of earlier *post mortem* examinations, we could also convince ourselves of the presence in the intestine, in very acute cases, of almost a pure cultivation of comma-bacilli. I was able to demonstrate this

fact to Dr. Strauss and Dr. Roux, who had not as yet succeeded in proving the existence of comma-bacilli either microscopically or on firm nutritive soil. These gentlemen had always been of opinion, Dr. Strauss told me, that a special trick in the preparation was necessary in order to color and cultivate the comma-bacilli. Then, however, they were convinced that nothing is more simple than this, if only a pure and uncomplicated case be chosen for investigation.

In the second *post mortem* examination also in which I took part at Toulon, the comma-bacilli were found in the intestine in almost a pure cultivation. I then asked Dr. Strauss this opportunity of showing me the micro-organisms which, according to his view, are to be found in cholera-blood. But these appearances were not to be found in either case.

If we add all these cases together, nearly one-hundred have been examined with regard to the presence of comma-bacilli, and the bacilli have been found in all of them. But the investigation has not only proved the existence of the comma-bacilli, but, as I have repeatedly hinted, they always stand in exact proportion to the cholera-process itself; for, where the real cholera-process proper caused the greatest modifications in the intestine, namely, in the lower section of the small intestine, they are to be found in greatest numbers; from these upwards they diminished more and more. In the most uncomplicated cases, they appeared almost like pure cultivating. The older the cases, and the secondary modifications have taken place in the intestine, the more do they recede into the background.

In accordance with the cholera-material that I have so far examined, I think I can now assert comma-bacilli are never found absent in the time of cholera; they are something that is specific to cholera.

As a test, a considerable number of other corpses, dejecta from other patients in good health, and other substances containing bacteria, were examined to see if these bacilli, which were never missing in cases of cholera, might, perhaps, occur elsewhere also. This is the point of the greatest importance in judging the causal connection between the comma-bacilli and cholera.

Amongst these objects for investigation was the corpse of a man who had had cholera six weeks before, and had after-

wards died of anæmia. There was no farther trace of comma-bacilli to be found in his intestines. The dejecta of a man, who had had an attack of cholera for eight days previously, were examined; his stools were already beginning to be consistent; in this case also comma-bacilli were absent.

I have also thoroughly examined more than thirty corpses, in order to convince myself more and more that these bacilli are really only found in cases of cholera. Corpses of those who had died of the affections of the intestines, *e. g.*, dysentery or of those catarrhs of the intestine frequently mortal in the tropics, were chiefly selected for this purpose; also cases with ulceration in the intestine, a case of enteric fever, and several cases of bilious typhoid.

In the last named disease, the modifications in the intestines are at first sight very similar to those which take place in severe cases of cholera, in which hemorrhage of the intestine takes place. The small intestine is in the lower section infiltrated by hemorrhage; but, strange to say, this change affects rather the Peyer's patches in bilious typhoid, whilst in cholera they are very little changed.

In all these cases where we had to deal chiefly with diseases of the intestine, no trace of comma-bacilli was to be found. Experience teaches that such affections of the intestines make people especially liable to cholera. So one might have presupposed that comma-bacilli, if they were to be found anywhere else, must be found in these cases. Besides these, dejecta of a large number of dysenteric patients were examined without the comma-bacilli ever being met with. I continued these investigations afterwards in Berlin, together with Dr. Stahl, my untiring fellow-laborer, a man who promised much for the investigation of bacteria, had not an early death unhappily put an end to his work. We examined a considerable number of various dejecta, especially of children's diarrhœa, as well as that of grown-up persons; saliva also, and the mucus that adheres to the teeth and tongue, and which abounds in bacteria, for the purpose of finding comma-bacilli, but always without success. Various animals were also examined with this view. Because a complication of symptoms very similar to those of cholera can be obtained by arsenical poisoning, animals were poisoned with arsenic, and afterwards examined. A great number of bacteria were

found in the intestines, but no comma-bacilli. Nor were they found in the sewage from the drains of the town of Calcutta, in the extremely polluted water of the river Hooghly, in a number of tanks which lie in the villages and between the huts of the natives, and contain very dirty water. Everywhere, where I was able to come across a liquid containing bacteria, I examined it in search of comma-bacilli, but never found them in it. Only once did I come across a kind of bacterium which, at first sight, bore a strong resemblance to comma-bacilli, and that was in the water which, at high water, floods the land of the salt water lake that lies to the east of Calcutta; but, on closer inspection, they appeared larger and thicker than comma-bacilli, and their cultivation did not liquefy gelatine.

Besides these observations, I have had a considerable experience in bacteria, but I cannot remember ever having seen bacteria resembling comma-bacilli. I have spoken to several people who have made a great number of cultivations of bacteria, and have also had experience, but all have told me that they have not yet seen such a kind of bacteria. I, therefore, think I may say positively that the comma-bacilli are constant concomitants of the cholera-process, and that they are never found elsewhere.

The question to be answered now is, how we are to represent the relation between the comma-bacillus and the cholera-process. In answering this question, three different assumptions may be made. It can be said, first, that the cholera process favors the growth of comma-bacilli by preparing the nutritive soil for them, and that, consequently, so striking an increase of precisely this kind of bacteria takes place. If this assertion be made, then one must start with the presupposition that everybody already has comma-bacilli in his body at the time when he is attacked by cholera; for they were found in the most various places in India, in Egypt, in France, and in people of most various origin and nationality. On this assumption, this kind of bacteria must be one of the most widely spread and most usual kind. But the contrary is the fact; for they are not found, as we have seen, either in those persons who are suffering from other diseases, or in persons in good health, or, except in man, in places favorable for the development of bacteria; they are always found only

where cholera is prevailing. This assumption cannot, therefore, be regarded as admissible, and must, therefore, be dropped.

Secondly, one might try to explain the regular concurrence of comma-bacilli and the cholera-process in this way; that conditions are created by the disease, by means of which, amongst the many bacteria that are to be found in the intestine, one kind or another is changed, and assumes the qualities that we have observed in the comma-bacillus. But, in regard to this explanation, I must confess that it has no actual foundation whatever, and is a pure hypothesis. So far, we know of no transformation of one kind of bacteria into another. The sole instances of transformation in the qualities of bacteria rest on their physiological and pathogenic effects, not on their form. Anthrax-bacilli, for instance, when treated in a particular manner, lose their pathogenic effect, but they remain quite unchanged in form. In this instance, we have an example of loss of pathogenic qualities. But this is precisely the opposite of what would take place by the transformation of harmless intestinal bacteria into dangerous cholera-bacilli. Of this latter kind of change from harmless into harmful bacteria, there is no instance that has been ever shown. Some years ago, when the investigation of bacteria was only in its first stage, such an hypothesis might with some degree of justification have been made. But the further the knowledge of bacteria has developed, the more certain has it been shown that, in regard to shape, bacteria are extraordinarily constant. With special reference to comma-bacilli, I will further remark that they retain the qualities above described when raised outside the human body. For instance, they were repeatedly cultivated, from one to another cultivation, in gelatine, to the number of twenty cultivations, and must have returned to the known forms of the common intestinal bacteria, if they were not as constant in their qualities as other bacteria; but this was by no means the case.

There only remains the third assumption—namely, that the cholera-process and the comma-bacilli stand in immediate connection with one another; and, in this respect, I know of no other supposition than that the comma-bacilli are the cause of the cholera-process; that they precede the dis-

ease, and that they produce it. The opposite would be, what I have just explained, that the cholera-process produces the comma-bacilli; and this is, as was shown, not possible. As far as I am myself concerned, the matter is clear, that the comma-bacilli are the cause of cholera.

Now it can certainly be demanded that, if this be the case, further proofs should be brought in support of it, and above all, that the cholera-process should be produced experimentally by means of the comma-bacilli. Every imaginable effort has therefore been made to meet this demand. The only possible way of giving such a direct proof of the cholera-producing effect of comma-bacilli is to make experiments on animals, which, if we are to believe the statements of writers on the subject, can be done without any difficulty. It has been said that cases of cholera occurred amongst cows, dogs, poultry, elephants, cats, and several other animals; but on closer examination these statements are found to be quite unreliable. As yet we have no certain instance of animals falling spontaneously ill of cholera in periods of cholera. All experiments, also, which have hitherto been made on animals with cholera-substances, have either given a negative result, or, if they were said to give a positive result, they were not sufficiently supported by evidence, or were disputed by other experimenters. We occupied ourselves, nevertheless, in the most careful and detailed manner, with experiments on animals. Because great value must be laid on the results of white mice obtained by Thiersch, I took fifty mice with me from Berlin, and made all kinds of experiments on them, at first feeding them on the dejecta of cholera-patients and the contents of the intestines of cholera corpses. We followed Thiersch's rules as accurately as possible, not only feeding them with fresh material, but also with the same food after the fluids had begun to decompose. Although these experiments were constantly repeated with material from fresh cholera-cases, our mice remained healthy. We then made experiments on monkeys, cats, poultry, dogs, and various other animals that we were able to get hold of; but we were never able to arrive at anything in animals similar to the cholera-process. In precisely the same manner we made experiments with the cultivations of comma-bacilli; these were also given as food in all

stages of development. When experiments were made by feeding the animals with large quantities of comma-bacilli, on killing them, and examining the contents of their stomachs and intestines with a view to find comma-bacilli, it was seen that the comma-bacilli had already perished in the stomach, and had usually not reached the intestinal canal. Other bacteria are different in this respect, for a beautifully red-colored micrococcus was found accidentally at Calcutta, which was easily recognized by its striking color, and was therefore especially suitable for such an experiment. This micrococcus was, at my request, given by Dr. Barclay, of Calcutta, to mice as food, and the contents of the intestines of these animals were placed upon potatoes. The red colonies of the micrococcus again formed, which had thus passed the stomach of the mouse uninjured. On the other hand, comma-bacilli are destroyed in the stomachs of animals. We were forced to conclude from this that the failure of these experiments by feeding the animals was due to this property of the comma-bacilli. The experiment was therefore modified by introducing the substances direct into the intestines of the animals. The belly was opened and the liquid was injected immediately into the small intestine with a Pravaz syringe. The animals bore this very well, but it did not make them ill. We also tried to bring the cholera dejecta as high as possible into the intestines of monkeys by means of a long catheter. This succeeded very well, but the animals did not suffer from it. I must also mention that purgatives were previously administered to the animals in order to put the intestine into a state of irritation, and then the infecting substance was given, without obtaining any different result. The only experiment in which the comma-bacilli exhibited a pathogenic effect, which therefore gave me hope at first that we should arrive at some result, was that in which pure cultivations were injected directly into the blood-vessels of rabbits or into the abdominal cavity of mice. Rabbits seemed very ill after the injection, but recovered after a few days. Mice, on the contrary, died from twenty-four to forty-eight hours after the injection, and comma-bacilli were found in their blood.

Of course, they must be administered to animals in large quantities; and it is not the same as in other experiments connected

with infection, where the smallest quantities of infectious matter are used, and yet an effect is produced. In order to arrive at certainty whether animals can be infected with cholera, I made inquiries everywhere in India whether similar diseases had ever been remarked in India amongst animals. In Bengal, I was assured such a phenomena had never occurred. This province is extremely thickly populated, and there are many kinds of animals there which live together with human beings. One would suppose, then, that in this country, where cholera exists in all parts of it continuously, animals must often receive into their digestive canal the infectious matter of cholera, and, indeed, in just as effective a form as human beings, but no case of an animal having an attack of cholera has ever been observed there. Hence I think that all the animals on which we can make experiments, and all those, too, which come into contact with human beings, are not liable to cholera, and that a real cholera-process cannot be artificially produced in them. We must, therefore, dispense with them as a material for affording proofs.

But with this I do not by any means intend to say that no proof at all can be brought of the pathogenic action of comma-bacilli. I have already explained to you that, for my own part, I can form no other idea, even without these experiments on animals, than that a causal connection exists between the comma-bacilli and the cholera-process. Should it prove possible later on to produce anything similar to cholera in animals, that would not, for me, prove anything more than the facts which we now have before us. Besides, we know of other diseases which cannot be transferred to animals. *e. g.*, leprosy; and yet we must admit, from all that we know of leprosy-bacilli, that they are the cause of the disease. For this disease, also, we must dispense with experiments on animals, because as yet no species of animals has been found susceptible to leprosy. It is probably the same with enteric fever; I do not know that anyone has ever succeeded in infecting animals with it. We must be satisfied with the fact, that we verify the constant presence of a particular kind of bacteria in the disease in question, and the absence of the same bacteria in other diseases. The bacteria in question must always coincide exactly with the infectious

principle of this particular disease, and to this point I attach great value; the presence of pathogenic bacteria must be one corresponding to the pathological transformation in the body, and to the course of the disease. On the other hand, we know of diseases of animals, also, which cannot be transferred to human beings; for example, rinderpest and pneumonia of cattle. We meet here with a phenomenon widely spread in nature. Almost all parasites are restricted to only one or very few species of animals, which act as their host. I remind you of tapeworms; many kinds of animals have their own special tapeworm, which can only develop in one species of animal, and in no other.

We must, therefore, dispense with this part of the proof in a large number of infectious diseases, which number also includes the exanthematic diseases; and we can do this the more readily, because we already know a whole series of other diseases, which are caused by pathogenic organisms, in which, however, the conditions in other respects are the same, and of which we know with perfect certainty that the disease is occasioned by the micro-organisms belonging to these diseases, whilst we have never yet seen that the disease produces a specific micro-organism. I think that, after having become acquainted with a whole series of such diseases caused by micro-parasites, we are justified in drawing an analogous conclusion.

But, further, some observations are before us which are as good as experiments on human beings. We can look upon them as complete experiments which have taken place under natural conditions. The most important of these observations is the infection of those persons who are occupied in handling cholera-linen. I have often had an opportunity of examining cholera-linen, and have always found the comma-bacilli in enormous numbers, and generally in a regular pure cultivation, in the mucous substance which is found on the surface of the linen soiled by the dejecta, as you have been able to convince yourselves from one of the microscopic plates I have shown you.

If, therefore, an infection can be brought about by cholera-linen, then, as the comma-bacilli are the only micro-organisms in question, it can only be brought about by the laundress bringing her hands soiled with comma-bacilli into contact with her food or

directly with her mouth, or by the water that contained bacilli splashing and some drops of it reaching the lips or mouth of the laundress; in any case, the conditions are the same here as in an experiment in which a human being is fed with a small quantity of a pure cultivation of comma-bacilli. It is indeed an experiment which a human being unconsciously performs on himself, and the same demonstrative power lies in it as if it had been intentionally made. This observation has furthermore been frequently made and by very various medical men, so that there can be absolutely no doubt of their trustworthiness. I can, besides, appeal to an observation of my own on this point. I succeeded in finding comma-bacilli with all their characteristic peculiarities in a tank that supplies water for drinking and household purposes for all the people living around, in the immediate neighborhood of which a number of fatal cases of cholera had taken place. It was later shown that the linen of the first person that had died of cholera in the neighborhood of this tank had been washed in the tank. That is the only time that I have as yet been able to find the comma-bacilli outside the human body. On the bank of this tank there were 30 or 40 huts, in which from 200 to 300 people lived; and 17 of these had died of cholera. It could not be ascertained exactly how many had been taken ill. Such a tank supplies those who live close to it with water for drinking and household purposes; but at the same time it receives all the refuse from the houses. The Hindoos bathe in it every day, they wash their utensils in it, the human fæces are by preference deposited on its banks, and when a hut is provided with a cesspool it drains into the tank. This was precisely the case with the tank in question. When the comma-bacilli were first found in tolerably large numbers and at different points of the bank, the small epidemic had already reached its maximum. A short time afterwards, when only isolated cases occurred, the comma-bacilli were only to be found at one spot, and in small numbers. When they were first found, they were so abundant that their number could not have depended alone on the dejecta that had flowed into the tank and on the wash-water from cholera-linen; an increase of them must have taken place. On the second investigation, on the other hand, their small number did not correspond to the numerous

cases of illness that had preceded. If the latter had supplied the tank water with bacilli, the bacilli must have been far more numerous this time, in comparison with the first time they were discovered. Hence it cannot be said in this case that the presence of the comma-bacilli in the tank was only a consequence of the cholera-epidemic. The relation was such that the epidemic must have been a consequence of the bacilli. We must lay the greater value on observations of this kind, especially on the infection through cholera-linen, because we shall perhaps never be in a position to make direct successful infection-experiments with comma-bacilli.

The fact that the whole etiology of cholera, so far as it is known to us, agrees completely with the peculiarities of comma-bacilli is, I consider, an essential support of my theory, that the comma-bacilli are the cause of cholera.

We have seen that comma-bacilli grow exceedingly rapidly, that their vegetation quickly reaches its maximum, then ceases, and that the bacilli are finally driven away by other bacteria. This corresponds exactly to what proceeds in the intestine.

It can be assumed that, just as in the case of other bacteria, very few individuals are sufficient — under certain circumstances, one single one — to cause infection. Accordingly, we can very well imagine that individual comma-bacilli reach the intestinal canal accidentally, and very speedily multiply there. As soon as they have multiplied to a certain degree, they occasion a state of irritation of the mucous membrane of the intestine and diarrhoea; but when the multiplication continues in increasing progression, and reaches the maximum point, then they culminate into the peculiar complex of symptoms that we characterise as the real attack of cholera.

We have already seen that comma-bacilli most probably, under certain conditions, cannot pass the stomach, at least in animals. This also agrees with all experience of cholera, for predisposition seems to play an important part in cholera-infection. It can be assumed that, of a number of people exposed to cholera-infection, only a fraction of them fall ill, and these are almost always those already suffering from some kind of digestive disturbance, *e. g.*, catarrh of the stomach or intestines, or those who have overloaded the stomach with indigestible food. Especially in the latter case, more

or less undigested masses of food may pass into the intestinal canal, and possibly bring with them the comma-bacilli not yet killed in the stomach. You have certainly often observed that the greater number of cases of cholera occur on Monday and Tuesdays, that is, on the days which have generally been preceded by excesses in eating and drinking.

It is certainly a strange phenomenon, that comma-bacilli confine themselves to the intestines. They do not pass into the blood, nor even into the mesenteric glands. How is it now that this bacteria-vegetation in the intestine can kill a man? In order to explain this, I call your attention to the fact that bacteria, when they grow, not only consume substances, but also produce substances of very various kinds. We know a great many of these kinds of productions of the vital changes of bacteria, which are of a very peculiar nature. Many of them are of a transient nature, and emit an intense smell, others produce colouring matter, others poisonous substances. In the putrefaction of albuminous liquids, *e. g.*, blood poisons are formed, which must be products of vital changes of these bacteria, as putrefaction is only a consequence of bacteria-vegetation. Many phenomena go to show that these poisons are only produced by special kinds of bacteria, for we see that putrefied fluids can at one time be injected into an animal without producing any effect, whereas they prove poisonous at another time. In this light, I picture to myself the effect of comma-bacilli in the intestine, which depends upon the products of vital changes. In favor of this view, I possess special points of support. It so happened, that in one cultivation-experiment, the nutritive gelatine contained at the same time blood-corpuscles in tolerably large numbers and comma-bacilli. After this gelatine had been poured upon a plate, a number of colonies of comma-bacilli grew. The plate looked as if a reddish dust were suspended in it, as, when the light fell through it, one had a clear impression of the single blood corpuscles. In this reddish finely granular layer, the colonies of comma-bacilli looked to the naked eye like small colourless holes. When they were examined under the microscope, the striking phenomenon was discovered that the colonies of comma-bacilli had destroyed all the blood corpuscles within a pretty wide circle, and also to some distance be-

yond the limit within which they had liquefied the gelatine. From this it is seen, that comma-bacilli can exercise a destructive influence on the formed elements of the blood, and very probably also on all other cells.

Mr. Richards, a medical man at Goalunda, in India, has also made an observation which supports the view of the presence of a poisonous substance in the contents of the cholera intestine. Mr. Richards fed some dogs with large quantities of cholera dejecta, without producing any effect on the dogs. Then he made the same experiment with pigs, which, according to his statement, died in cramps in a very short time from a quarter of an hour to two hours and a half, after being fed. This was clearly a case of poisoning, and not, as Mr. Richards supposes, of artificial cholera infection. That this was really so, is especially seen from one of the experiments, in which the contents of the intestine of a pig, killed by being fed on cholera dejecta, which, according to Mr. Richard's opinion, had the cholera, were given to another pig. This second pig did not suffer from it, so that a reproduction of the supposed infectious matter in the intestine of the pig fed first could not have taken place. If genuine cholera could be produced amongst pigs, it would be then possible to infect a second pig with the contents of the intestine of the first, and a third with those from the second and so on. Although these experiments do not prove what Mr. Richards intended to prove by them, they are in so far very interesting, because showing that, in cholera dejecta, substances can under certain circumstances be contained, which are poisonous to pigs. Dogs seem to be unaffected by them, mice and other animals also, as our experiments show. The power of resistance of other animals to this poison, and the susceptibility of pigs to it, ought to cause no surprise, when we remember that only pigs seem to be killed by the poison which sometimes forms in the brine of salt meat and herrings.

Supposing that comma-bacilli produce a special poison, the phenomena and course of cholera can be explained as follows. The effect of the poison shows itself partly in an immediate manner, the epithelium, and in the worst cases also the upper layers of the mucous membrane of the intestine, being mortified thereby; it is partly reabsorbed and acts on the organism as a whole,

but especially on the organs of circulation, which are as it were paralysed. The complex of symptoms of the attack proper of cholera, which is generally looked upon as a consequence of loss of water and the inspissation of the blood, is, according to my opinion, to be regarded essentially as poisoning. For it takes place also not unfrequently when comparatively very small quantities of fluid are lost during life by vomiting and diarrhoea, and when, immediately after death, the intestine also contains only a small quantity of liquid.

If, now, death follow in the stage of cholera poisoning, then the phenomena met with in *post mortem* examinations correspond to those cases in which the mucous membrane of the intestine is little changed, and the contents of the intestine consists of a pure cultivation of comma-bacilli. If, on the contrary, this stage be prolonged, or if it be got over, the consequences of the mortification of the epithelium and of the mucous membrane show themselves; capillary hemorrhage in the mucous membrane takes place, and some of the component parts of the blood mix in more or less abundance with the contents of the intestine. The albuminous fluid in the intestine begins to putrefy, and, under the influence of the putrefaction bacteria, other poisonous products are formed which are also absorbed. But these have an effect differing from that of the cholera poison; the symptoms caused by them correspond to what is generally called cholera typhoid.

Corresponding to the view that the comma-bacilli only vegetate and unfold their effect in the intestine, the seat of the infectious matter can only be looked for in the dejecta of patients, only exceptionally in the vomit. In this, I think I am in accord with the more recent views. It is true that this view is still contradicted by some investigators, but we are in possession of incontrovertible proofs in its favour, above all, infection by means of linen; so that, apart from the comma-bacilli, there can be no doubt also that the dejecta really contain the infectious matter. For the further spread of the infectious matter, the first condition is that the dejecta remain in a moist condition. As soon as they are dry, they lose their effectual agency.

One of the commonest ways of spreading the infectious material, of which, too, we have had an example in the tank epidemic, is water. How easily can cholera dejecta

or water used for cleaning cholera linen get into wells, public watercourses, and other places for the supply of drinking water and of water for household purposes. Thence the comma-bacilli find plenty of opportunities of returning into the human household, either in drinking water or in water used for being mixed with milk, for cooking, for rinsing pots and pans, for cleaning vegetables and fruit, for washing, bathing, etc.

Besides these ways, the infectious matter can enter the human digestive organs by a shorter way; for comma-bacilli can, beyond a doubt, retain vitality for a considerable time on articles of food which have a moist surface, and it can easily be supposed that they are not rarely brought thither by being touched with dirty hands; and I do not consider it at all impossible that the infectious matter is transferred to food by means of insects, for example, by common flies. In most cases, certainly, the infectious matter enters the soil with the dejecta, and finds its way, somehow or other, into wells or tanks.

I start with the assumption that only moist substances, and these of most different kinds (I do not by any means confine myself to drinking water) that are polluted in any way by moist dejecta, may also convey the infectious matter to the body. On the other hand, I do not think that the infectious matter of cholera can keep in a dry state, or, which is the same thing, that it can be transferred by means of the air. For the dispersion of an infectious matter can, as a rule, only take place by means of the air when dry, and in the form of dust. Experience is also in favour of the view that the infectious matter cannot be introduced in a dry state, for we know that hitherto the cholera has never come hither by means of goods on the way from India; never as yet have letters or postal packets introduced cholera, even when not, as is now frequently done, pierced through and fumigated. If the origin of the separate epidemics be carefully looked into, it will be found that cholera has never reached us except through human beings themselves; and although people have not succeeded in the case of these separate epidemics in tracing the individual who brought the infectious matter, one must not conclude from this that this is an exception. For we must consider that it is not only the individual who dies of cholera, or who has an unquestionable attack of cholera, that is liable

to transfer infection, but that all possible transitions up to this most violent form of the disease, even slight attacks of diarrhoea, take place, which are probably just as capable of giving infection as the worst case of cholera. Of course, we can only arrive at positive certainty on this important point, when the slightest cases have been proved to be real cases of cholera by tracing the presence of comma-bacilli.

There remains still the important question to be answered, whether the infectious material can reproduce or multiply itself outside the human body. I believe that it can. As the comma-bacilli grow on a gelatine plate, as they can grow on a piece of linen, or in meatbroth, or on potatoes, they must also be in a position to grow in the open air, especially as we have seen that a comparatively low temperature enables them to develop. I would not certainly assume that the multiplication of the comma-bacilli outside the human body takes place in well water or river water without any assistance, for these fluids do not possess that concentration of nutritious substances which is necessary for the growth of the bacilli. But I can easily imagine that, although the whole mass of the water in a tank or reservoir is too poor in nutritious substances for bacilli to flourish in it, yet some spots may contain sufficient concentration of nutritive substances, for example, those spots where a gutter, or the outlet of a cesspool, opens into the stagnant water, where vegetable matter, animal refuse, etc., lie, and are exposed to putrefaction by bacteria. At such points, a very active form of life can develop.

I have often formerly made such experiments, and it has often happened that a water contained almost no bacteria at all, whilst remains of plants, especially roots or fruits swimming in it, teemed with bacteria, especially certain kinds of bacilli and spirilla. Even in the immediate neighborhood of these objects, the water was rendered turbid by swarms of bacteria, which clearly received their nourishment from the nutritive matter scattered by diffusion at a very small distance.

[TO BE CONTINUED.]

MURDOCK'S LIQUID FOOD consist of the juices of raw meat and fruits. In chronic starvation in delicate women, or in aepsia of infants, it is highly useful,

MEDICINE.

GREEN LEAVES OF THE DATURA STRAMONIUM IN PAINFUL JOINT AFFECTIONS. — By Hal C. Wyman, M.D., in *The Medical Record*.

It may be unwise to speak of a remedy that can only be had at one season of the year, yet such a remedy I have found so valuable, so wide in its range of usefulness that I am constrained to risk criticism by reporting the success I have had in the treatment of some painful joint affections with the green leaves of the datura stramonium.

I have now under my care in the wards of the Michigan College of Medicine Hospital a young woman aged twenty-two, who is recovering from an attack of acute rheumatic inflammation of the right knee joint, that illustrates the advantages of treatment with fresh stramonium leaves. She was attacked three months ago with rheumatism of the wrist and ankle joint, upon opposite sides. Under treatment salicylates the swelling disappeared from these joints and reappeared in the right knee, where it remained until I began the use of the leaves. In the mean time, blisters and iodine ointment externally, iodide of potash, colchicum, and alkalies internally, were tried without avail. Large and frequently repeated doses of morphine were required at night to relieve pain and produce sleep. She began to enjoy freedom from pain and to sleep, and the joint to improve immediately the joint and the parts contiguous were enveloped in layers, three or four deep, of the freshly picked leaves of the datura stramonium — thorn-apple or Jamestown weed, as it is sometimes called. This application has been continued for two weeks. Internally she has taken infusion of quassia only. She has developed good appetite. The joint has become mobile and supple, and swelling has almost entirely gone.

A feeble, nervous boy, aged ten, had psoas abscess caused by carious dorsal vertebrae. He slept badly and worried and cried with pain in the hip and lumbar region. Morphine internally interfered with digestion. His friends could not be prevailed upon to use it thoroughly by injections. I directed that a sufficient number of the fresh leaves of the stramonium be gathered daily from a neighboring vacant lot and applied to the hip and lum-

bar region, and held in place by a bandage. Freedom from pain was the almost immediate result.

I could mention numerous cases of acute inflammation of the large joints of the body in which pain on attempted movement was a prominent symptom, that have occurred in my practice during the summer season. I have been in the habit of using fresh stramonium leaves in these cases, and with the most happy results, as far as the relief from pain is concerned. In the season when it is impossible to obtain fresh leaves I have tried injections of stramonium, but without success.

The plant from which the leaf is obtained is now so common in the United States that one need experience little difficulty in securing a sufficient number of fresh leaves every day in any case of inflamed joint, where it is desirable to check pain and give physiological rest. It is my custom to keep the joint enveloped in the leaves for a period of twenty-four hours, when fresh leaves are to be applied. In some cases I have used the bruised leaves, in the form of a paste or cold poultice, but do not think any particular advantage has resulted from that method of application. All that seems necessary to relieve the pain is to invest it in a layer of leaves thick enough to shut out the air, and prevent surface evaporation. Profuse perspiration of the skin over the joint follows, and pain and swelling usually vanish.

An experience of twelve summers with this remedy convinces me that with its help there is less frequent occasion to resort to the various immobilizing apparatus in the management of joint troubles than in winter, when it is impossible to obtain the fresh leaves, and that my summer cases make better recoveries—more useful joints because of the greater opportunity given by the treatment, without fixation apparatus, for the exercise of the physiological conditions under which the joints exist.

The LANCET & CLINIC and OBSTETRIC GAZETTE to one address one year for \$5.00.

MULLEIN LEAVES IN PHTHISIS.—At the late meeting of the International Medical Congress, at Copenhagen, Dr. Quinlan, of Dublin, read a paper in which he advocated the use of mullein leaves in phthisis, claiming extraordinary success in the treatment of this disease by the free use of a

decoction in milk of this plant, or rather weed, for it is one of the most common of our native weeds, growing by the roadside and in neglected fields. Mullein is known to botanists as the *verbascum thapsis*, and has honorable mention in the *Codex of France* under the name of *Molène bouillon blanc*, entering into the composition of the *quatre fleurs pectorales*.

The mode of preparation is to infuse an ounce of the dried leaves or the equivalent of the fresh, in a pint of milk, to boil for ten minutes and then to strain. This infusion is administered warm to the patient, with or without a little sugar. The whole pint is to be given in two doses within twenty-four hours. The hot decoction is said to be very easing to consumptive coughs, so that during its use ordinary cough mixtures may be dispensed with. Its power of checking phthisical looseness of the bowels is said to be very marked. In early cases, according to Dr. Quinlan, the mullein milk appears to act in the same manner as cod liver oil, than which it is much more palatable. A large number of cases of pulmonary consumption have been treated in St. Vincent's Hospital, Dublin, exclusively on mullein, and it is said that crowds of patients have been attracted to this hospital by the wonderful results that have attended this singularly simple treatment.

In phthisical coughs great relief is said to follow smoking dried mullein leaves in the same manner as tobacco. Dr. Quinlan showed at the meeting of the congress some cigarettes made of mullein leaves, which are said to be very pleasant to smoke. It is asserted that in pretubercular and early cases of consumption mullein appears to have a distinct weight increasing power, and to be an excellent palliative to the cough in later stages, besides being the very best remedy to antagonize looseness of the bowels.

Wood, in the U. S. Dispensary, speaks of mullein leaves as "demulcent and emollient," and as reputed to possess "anodyne properties which render them useful in pectoral complaints."—*Med. Record*.

OPIUM SMOKING AS A THERAPEUTIC MEASURE.—Dr. Thudicum regards opium smoking as a valuable remedy in colds, hay fever, chronic neuralgia and hyperæsthesia, when these affections are rebellious to the action of quinine in large doses

(*Schmidt's Jahr.*, No. 4, 1884). It is also useful in attacks of coughing in phthisical patients. The author thinks there is no danger of the patient becoming habituated to the practice, and thinks only those who suffer from incurable affections are unable to cure themselves of the habit. The aqueous extract is used, and the smoke is to be deeply inhaled. Dr. Thudicum regards the stories which have been told of the victims of opium smoking as highly colored fables, but this is probably because he lacks experience, otherwise he would not so unhesitatingly recommend such a dangerous remedy.—*Med. Record*.

PRURITIS ANI and the distressing itching of urticaria and mosquito bites can be much alleviated by local applications of menthol. It may be used by rubbing the menthol pencil lightly over the surface, or by dissolving a small amount in alcohol and bathing the part.

SURGERY.

SURGICAL INTERFERENCE IN AFFECTIONS OF THE BRAIN.—In an elaborate paper read before the New York Academy of Medicine, Dr. R. W. Amidon reaches the following conclusions:

We have trephining, an operation proving fatal in only three per cent. of published cases; opening the *dura mater*, fatal in only 7.6 per cent. of published cases.

We have the brain, an organ tolerant of injury and ready to take on a reparative process.

We are possessed of a knowledge which enables us to tell when certain parts of the brain are diseased; and we also have anatomical data which tell us just where to pierce the envelopes of the brain to reach a certain definite part of its convexity. We have all the elements of safety and anatomical accuracy. Why should cerebral surgery not advance with pulmonary, renal, intestinal, and ovarian surgery?

The substitution of the dental engine and a burr or drill cutting on the side, for the ordinary trephine, strikes me as advantageous. It has been used and advocated by Dorr and Roberts. Its advantage over the trephine is principally that with it you can cut away as much or little bone as you please, and make an opening of any shape you please. It is especially useful in trimming down the edge of over-riding bone,

to allow the elevation of depressed fragments.

Let the operation always be done with antiseptic precautions. Try and secure only approximate coaptation of the flaps. Provide the freest possible drainage. Use cold antiseptic dressings, without much compression. Enjoin the strictest quiet, in a posture facilitating drainage, simple diet, and a slightly loose condition of the bowels. On the slightest rise of arterial tension or temperature, give *jaborandi* or *aconite*, to the production of physiological effects. Quinine and alcohol should, I think, be given only in tonic doses. An anodyne is often indicated, and it is my advice never to use opium, or any of its preparations or derivatives. To ease pain, quiet delirium, or induce sleep, use the hydrate of chloral, in small repeated doses (.60-1, every ten or fifteen minutes). Quinine and alcohol in large, and opium in *any* dose, aggravate intracranial inflammation when present, and, I think, may excite it.

These suggestions apply equally well, or with still greater force, to cases in which the dura mater or brain is accidentally or intentionally invaded.

A few words as to what I consider good indications for opening the skull.

An injury of the vault, however slight the marks of external violence, provided there be coma, aphasia, hemiplegia, or hemispasm of the lower part of the face, of the arm, or leg, or all three, constituting hemi-epilepsy; whether accompanied or not by chills, fever, headache, and vomiting. General epileptic convulsions do not constitute so good indications for operation. Every case of compound fracture of the skull, whether there be cerebral symptoms or not. Cases in which, after the lapse of months or years even, unmistakable cerebral symptoms follow an injury to the head. Atrocious and incurable headaches, particularly if localized, aphasia, monoplegias and monospasms, hemiplegic or hemi-epileptic seizures or general epileptic attacks, if they have an aura pointing to a localized lesion. In addition to the bone, the dura mater should be opened, in all cases in which exploration with a hypodermic needle discloses the products of purulent inflammation or a great deal of fluid blood under it; in all cases in which a serious lesion of the brain is suspected, but cannot be otherwise proven.

In addition to the bone and dura mater the brain should be explored, delicately, with a probe, in all penetrating wounds of its substance, punctured, lacerated, or gunshot. Its mass should be invaded, even when superficially intact, by a fine, blunt, exploring needle, when the presence of foreign bodies or hidden collections of pus are suspected, and, for the extraction or evacuation of such, larger openings should be made with a dull instrument.

Finally, accessible neoplasms of the brain, which have resisted medicinal treatment, and which continue to grow and threaten life, should be removed, for the reason that they are generally single, seldom have secondary deposits, are surrounded by an inflammatory zone of demarcation, and *always* kill by pressure.—*Medical News*.

TREATMENT OF LEG ULCERS. — Dr. Roberts has recently had excellent results in chronic ulcers of the legs, after sprinkling powdered chloride of sodium thickly over the surface of the ulcer, once every three or four days, and dressing the sores twice daily with corrosive sublimate ointment. The ointment contains half a grain of the mercuric chloride to the ounce of cerate. Chronic ulcers with callous edges are often most expeditiously treated by the surgeons excising them by means of an elliptical incision, and closing the wound with sutures.—*The Polyclinic*.

• ON INGROWING TOE NAIL.—Mr. Greig-Smith (*Bristol Medico-Chir. Jour.*) divides this subject into two classes, intrinsic and extrinsic.

a. Intrinsic, i.e., in the nail or in the surrounding tissues or both.

1. In some persons the nails are convex, and dip deeply into the surrounding flesh. In such cases ordinary nail cutting is difficult, and a spicule of bone is often left behind, which insinuates itself into the neighboring flesh. The latter swells and conceals it. Irritation is thus set up and the condition developed.

2. In the flesh. Some people have redundancy of flesh in their toes, overlapping the nails. The confinement in the boot and soddening perspiration, starts the condition.

3. In both nail and flesh. The existence of both the above conditions — an arched toenail and an excess of soft tissue

—will frequently be found associated with the malady.

b. Extrinsic, or from causes outside the nail and the tissues.

1. Flattening of the arch of the foot. When the natural arch is destroyed, the anterior pillar, the ball of the great toe, atrophies, and the patient rests the weight of the body on the whole of the flattened sole. At the end of the step, when the knee is flexed, the weight is transferred to the anterior part of the foot. This is naturally the pad at the root of the toes, particularly of the great toe, but when the plantar ligaments are relaxed and perhaps painful, this support is not available. Recourse is then had to the only available help, the only tendon that passes from the top of the arch of the foot to its anterior extremity — that of the flexor longus pollicis. By its contraction the tip of the great toe is brought to the ground and acts as a substitute for the natural pier. But constant use of the toe in this wise induces hypertrophy of its tissues and consequent overlapping of the toe nail. By easily understood stages the hypertrophy becomes irritation, inflammation and suppuration where the flesh is crowded over the edge of the nail, and in this way we get the condition fully developed.

It is simple flat-foot, *pes planus*, and not splay-foot, *pes valgus*, which is most likely to start the mischief. If splay-foot causes it, it is more likely by everting the toe from pressure on its inside in walking, and so squeezing it against the second toe.

2. Eversion of the great toe. This is most frequently dependent either on a habit of walking with the limb much rotated outward, or on a congenital deflection of the toe itself. This too close proximity may merge into a passing beyond, and then we have the second toe, and perhaps the third, overriding the great toe, evidently causing the complaint.

3. Inversion of the lesser toes. In this case the same result is produced by a deviation inwards of the second and third toes.

Treatment. — a. 1. Careful attention to nail cutting. If the granulations are exuberant, the application of a crystal or two of chromic acid, which leaves a hard, dry scab,* under which the sore very quickly heals.

2. Where the cause lies in a superabundance of flesh in the toe, a condition which

is usually accompanied by a thin, tender skin, which perspires and chafes readily; first apply chromic acid if necessary, and thereafter pressure, either by strapping or elastic. Every night the toe is to be surrounded tightly from the lip upwards, with thin strips of adhesive plaster, taken from boiling water. This may be removed in the morning and replaced by an india rubber cap, such as is worn over a sore finger during a post mortem examination. The toe is thus rendered and kept anæmic by compression; congestion is removed, and the tissues get more firm and resisting in the course of a few months. Dusting the foot with boracic acid is also good.

3. A judicious combination of the above methods.

b. 1. Of the extrinsic causes the most important is flattening of the arch of the foot. Wear a small pad of several thicknesses of chamois leather or flannel under the ball of the great toe. After a few months the pad may be gradually given up.

2. When the cause is eversion of the great toe, place a pad between the great and second toes, stopping short of the sore part. This pad, which may be constructed of several layers of flannel or chamois leather, is retained in position by two collars, round the great and second toes respectively.

2. In cases where the second and third toes overlap the first, the condition is easily remedied by wearing a double band of tape, so arranged as to keep the two toes turned outward and pushed downward.

Such is the scientific treatment of the complaint. But in a class that can not afford to temporize, Mr. Greig-Smith removes the matrix as well as the nail, and scrapes the periosteum off the bone. The operation is a simple one, and by the exercise of a little dexterity may be done on both feet while the patient is under the influence of nitrous oxide gas. The knife grazing the bone is carried rapidly round the flesh at the right side of the nail, and, by a change of the same movement passes under the nail down to the bone, and lifts away nail, matrix, and suppurating flesh. A piece of boracic lint is wrapped tightly around the toe, and need not be removed for a week. In the mean time the patient may get about. At the end of a week the sore will be smaller than the nail removed, for the healthy tissues will have been

pressed in over the sore. In three weeks the wound is cicatrized over, and most likely in a few weeks more a stunted nail is developed, like that usually seen in the fifth toe, and from which no trouble ever arises.

The sore from this operation heals as quickly as that from simple avulsion of the toe nail, and there is no young and tender nail to be guided in its growth, and perhaps cause the old trouble in its maturity. This simple cicatrization is altogether a more rapid and less painful process than the growing of a young nail.

As a plan of treatment he believes that mere evulsion of the toe nail ought to be banished from surgery. It gives much discomfort during the growth of the young nail, does not attack the true cause of the mischief, and is a most uncertain mode of cure. The toe nail is useless, a firm cicatrix is innocuous and no more unsightly than the ordinary toe nail of an adult. The removal of the matrix and the scraping of the bone is certain to cure the very worst case of the disease. — *Journal of the American Medical Association.*

THERMO-CAUTERY FOR ANAL FISTULA.—

Dr. E. Farcy draws the following conclusions as to its advantages:

1. The operation is rapidly performed, and several fistulous tracts may be operated on at the same time.

2. Chloroform is unnecessary, and there is no danger of primary or secondary hemorrhage.

3. The vitality of the tissues is excited, and there is only moderate suppuration. The wound is protected from the air before granulation sets in.

4. There is no fever, no erysipelas, no purulent infection, no phlegmon, no relapse, and the cicatrix is linear.—*Medical News.*

MISCELLANY.

AMERICAN PUBLIC HEALTH ASSOCIATION—The twelfth annual meeting of the American Public Health Association will convene at St. Louis, Mo., on Tuesday, October 14th, 1884, at 10 o'clock, a. m., and continue four days. The meetings will be held in Liederkrantz Hall, corner 13th Street and Chouteau Avenue.

Papers have been promised for this meeting as follows: on

I. Hygiene of the Habitations of the Poor—Major Samuel A. Robinson, Inspector of Plumbing of the District of Columbia; Chas. W. Chancellor, M. D., Secretary State Board of Health, Maryland; Wm. K. Newton, M. D., Health Officer, Paterson, N. J.

II. Hygiene of Occupations—George H. Rohe, M. D., Professor of Hygiene, College of Physicians and Surgeons, Baltimore, Md.; Walter Wyman, M. D., Surgeon U. S. Marine Hospital Service; J. W. Chambers, M. D., Baltimore, Md.

III. School Hygiene—Samuel W. Abbott, M. D., Health Officer State Board of Health, Lunacy and Charity, Mass.; Edward M. Hartwell, M. D., Johns Hopkins University; Stephen O. Richey, M. D., Washington, D. C.; Felix Formento, M. D., New Orleans, La.

IV. Adulteration of Food—Hon. Erasmus Brooks, Member State Board of Health, N. Y.; Prof. H. B. Cornwall, Princeton College, N. J.; Chas. E. Munroe, S. B., Prof. of Chemistry, U. S. Naval Academy, Annapolis, Md.; Prof. V. C. Vaughan, M. D., Member State Board of Health, Ann Arbor, Mich.; J. Cheston Morris, M. D., Philadelphia, Pa.

V. Water Pollution—Major Chas. Smart, M. D., Surgeon U. S. Army, Member of the National Board of Health; Henry M. Baker, M. D., Sec'y State Board of Health, Mich.; Thad. M. Stevens, M. D., Indianapolis, Ind.

VI. Disposal of Sewage by Irrigation or Chemical Action—Henry P. Walcott, M. D., Chairman State Board of Health, Lunacy and Charity, Mass.; Geo. N. Bell, C. E., Newport, R. I.; W. John Harris, M. D., St. Louis, Mo.

VII. The Observable Effect upon the Public Health of Official Sanitary Supervision—Colonel George E. Waring, C. E., Secretary National Board of Health, Newport, R. I.

VIII. The Work of Municipal and State Boards of Health—Reported by their Secretaries.

IX. On Disease Germs—Major Geo. M. Sternberg, M. D., Surgeon U. S. Army; L. Bremer, M. D., St. Louis, Mo.; W. W. Vinnege, M. D., Member State Board of Health, Lafayette, Ind.; W. H. Stillwell, M. D., Humboldt, Tenn.

X. Cremation as a Sanitary Measure in Times of Great Epidemics—John Morris, M. D., Baltimore, Md.; Rev. John D. Beugless, Chaplain U. S. Navy, Brooklyn, N. Y.

XI. A Survey of the Present Sanitary Situation in St. Louis—Being a series of short papers on leading Public Health Topics, contributed by City Officials and local Sanitarians.

- a. The Situation, Soil, and Surroundings of St. Louis, considered from a Hygienic standpoint. By Col. Henry Flad, C. E., President Board of Public Improvements.
- b. Organization of Health Department, Sanitary Legislation and the Abatement of Nuisances. By Jno. D. Stevenson, Esq., Health Commissioner.
- c. Sources, Quality, etc., of the Milk and Meat Supplies of St. Louis. By Joseph Spiegelhalter, M. D., Member Board of Health, and J. C. Cabanne, Esq.
- d. Street Paving and the Public Water Supply. By Thomas J. Whitman, Water Commissioner and J. W. Turner, Street Commissioner.
- e. On the Average Temperatures and Prevailing Climatic Conditions of St. Louis. By Prof. F. E. Nipher, Washington University.
- f. Public Sewerage and House Drainage. By Robert Moore, C. E.
- g. The leading local (productive) Industries and their effect on the Health and Lives of their Operatives. By George Homan, M. D.
- h. The Infant and School Populations and existing Causes unfavorable to their Health. By J. P. Kingsley, M. D., Professor of Physiology and Diseases of Children, Mo. Med. College.
- i. The Chief Local Factors in the Causation of Disease and Death. By Robert Luedeking, M. D., Professor Pathological Anatomy, St. Louis Med. College.

Several papers have been promised in addition to the above, among which are: on Heating and Ventilation, Chas. O. Curtman, M. D., Professor of Chemistry, Mo. Med. College, St. Louis, Mo.; on Protective Spectacles, Adolphus Alt, M. D., Editor *American Journal of Ophthalmology*, St. Louis, Mo.; on Prevention of Syphilis, J. D. Gatch, M. D., Lawrenceburg, Ind.; on Hygiene of the Nervous System and Mind, C. H. Hughes, M. D., Editor of the

Alienist and Neurologist, St. Louis, Mo.; on the Sanitary Management of Railway Cars and Stations, W Thornton Parker, M. D., Acting Assistant Surgeon U. S. Army.

Full reports are expected from all Committees.

The headquarters of the Executive Committee will be at the Southern Hotel. The first meeting of the Committee will be held Monday, Oct. 13, at 2:30 p. m.

The Conference of State Boards of Health will meet at Liederkranz Hall, Monday, October 13, at 2:30 p. m.

The subjects for each day's consideration will be stated the previous day, and an official programme will appear each morning. Ample time for discussion will be allowed under the rules of the Association, and all discussions will be stenographically reported. The morning sessions will be adjourned at 2:30 p. m., daily, to permit the meeting of the Executive Committee, Advisory Council and Conference of State Boards in the afternoon, and to enable the members to visit the Missouri State Fair, which will be open until October 18.

Applications for certificates to enable members and those intending to become members and their families to obtain the reduced rates offered by the various railroad lines to St. Louis, should be made without delay to the Committee of Arrangements, Dr. Joseph Spiegelhalter, Chairman, 1100 Chouteau Avenue; Dr. Geo. Homan, Secretary, 703 Washington Avenue.

All papers offered the Association become its exclusive property, will be copyrighted, and can only be published by consent of the Executive Committee. All reports and papers must be in the hands of the Secretary by October 12th, in order to receive the approval of the Committee. After October 5th all communications to the Secretary should be sent to Southern Hotel, St. Louis, Mo.

Clergymen; Engineers, Architects, Builders and others interested in the practical work of the Association, are cordially invited to be present.

Ladies are especially invited to attend the evening meetings of the Association.

Per order Executive Committee,

IRVING A. WATSON, Secretary.
Concord, N. H., Sept. 27; 1884.

GARBAGE DISPOSAL. — The suggestion that all refuse matter from the kitchen should be burned has called forth a number

of inquiries as to the real practicability of the plan, many housewives being possessed with the idea that the odor of burning matter must necessarily pervade the house and be a constant annoyance. A personal experience in this matter for several years has proved that, with ordinary care in opening the stove dampers, there is not the slightest danger of any such annoyance. In my own home nothing is put out for the scavenger except ashes, and no one except the person who disposes of the kitchen refuse knows when it is put into the stove. In consulting Health Commissioner DeWolf of this city, on the subject of the disposal of garbage, I find he adopts the same plan, every particle of waste in his own house, even to watermelon rinds, being consumed in the kitchen stove. A coal scuttle is kept to receive all such matter, including the yellow papers from the market, which if not dangerous to health, are very unsightly, and by putting in a little at a time, when the fire is not in use, the whole is soon disposed of, the alley is kept clean, and health is not endangered.

Some people, especially those in small flats, use gas or oil stoves in summer, but almost every one has a fire once a week in kitchen or laundry, for washing, or, if not, it is very easy to light a fire in the stove occasionally for the express purpose of disposing of the garbage. The waste papers and fruit boxes which accumulate so rapidly will make blaze enough to dispose of the solid matter. The recklessness of the majority of people who throw everything into the alley, and the ignorance which exists in the parlor in regard to the condition of that same alley, where the odor of steaming, slowly decaying matter is infinitely worse than its quick transformation into clean ashes in the kitchen stove would be, is astonishing, and in view of the possible appearance of cholera, most alarming. It is useless to berate the city officials and the health department, and keep the frantic cry of "clean the city!" sounding in their ears while thousands of people who have a vital interest in the health and cleanliness of the city are doing all that is in the power of ignorance and stupidity to do to make it unsightly and foul and pestilential. In an alley in this city, which a vacant lot leaves exposed to the houses on the next street, a catch basin from a house was emptied on the ground last summer, no attempt being made to cover the filth. In ten days a lit-

tle girl who was playing about the street came down with malignant diphtheria and died. There is no doubt as to the connection between these two circumstances, and the ignorance of the people who permitted this outrage does not lessen their guilt or responsibility.

On this subject Mr. DeWolf says: "Mr. Murray Nelson, of this city, is doing a grand work. Every spring he draws up a paper by which the signers pledge themselves to see that nothing is thrown into the alley by any of their households, all ashes and other waste being placed in boxes for the scavenger. Every night, when the weather allows the alley is to be swept clean." This paper Mr. Nelson carries to all the residents within two or three blocks who use the alley, and the result is, that the people, having once enjoyed the benefits of this easily attained cleanliness, are as eager as the originator of the plan to keep their alley "neat and clean as a woman's kitchen."

There is nothing chimerical or even difficult in this plan, actual experience has amply proved. "If we had three hundred Murray Nelsons," said DeWolf in conclusion, "we should more nearly approach an absolutely clean city."

Of course there are many crowded localities where the lowest classes of foreigners swarm, but if respectable residents, who know that health depends on cleanliness, would remember that honesty and prudence, as well as good housewifery demand that the back of the house be kept as clean and free from taint as the front, and would take ordinary care in keeping their premises free from filth, there is a stronger probability that the degraded poor who have not learned this unalterable law would be more carefully looked after, and a more frequent effort made to keep their quarters decent.—*Sanitary News.*

DESTRUCTION OF INFECTIOUS GERMS BY HEAT.—Inasmuch as Dr. Koch believes that choleraic germs are destroyed by heat, the question of the degree of heat necessary for the destruction of germ life is desirable to know.

Disinfection by heat is practiced in England to a far greater extent than in this country, and as a simple and sure destroyer of germ life probably has no superior, and it should be more introduced into the United States.

It is at once understood that the lowest temperature which will effectually destroy germ life is desirable to know, because the use of too high temperatures may destroy bedding, clothing or other articles being disinfected. Dr. Parkes, in his "Practical Hygiene" (Wood's American edition, vol. 2, page 168), says: "We have no reason to believe that disease germs will resist a temperature of 220° Fahr., or even 112° Fahr., if completely and thoroughly exposed to it." Dr. Parkes also gives his opinion that the best method of disinfecting clothing and bedding is by heat.

Dr. Henry, of Manchester, after showing that vaccine virus lost its power after being subjected to a heat of 140° Fahr. for three hours, proceeded to disinfect clothing worn by persons sick with contagious diseases. Scarlet-fever clothing was disinfected by exposure to a temperature of 212° for one hour. Woollen clothing worn by plague patients was heated from 144° to 167° and afterward worn by fifty-six healthy persons for fourteen days, who did not contract the disease.

It may be proper to describe the mode of construction of some of these heat disinfectors, as, so far as is known, there are none manufactured in this country. The common arrangement, not patented, is a hot air chamber, a furnace, with the smoke stack passing "under or on one side of a brick chamber, and with a hot air blast running through or under the fire into the chamber itself or into a passage beneath it, whence it passes into the chamber through a valve; an exit for the hot air is provided in the top of the chamber, the clothes are suspended in the chamber at a little distance from the walls." (Parkes.) In some cases the bottom of the furnace is of iron, which is made red hot, sand being sprinkled over it to prevent the clothes taking fire. Hot air is variable in its temperature and amount. In one form heat and fumes of burning sulphur are combined. In many the doors are arranged so as to permit the entrance of the cart carrying the clothing.

In Berlin there is a steam disinfecting chamber. A drying closet in a laundry could be used if the heat could be made intense enough. A baker's oven, the core bakery of a furnace, and many other furnaces in mechanical trades could be used in emergencies. No hospital should be constructed without provision for disinfection

by heat. While it is desirable to accomplish the disinfection, too much heat will destroy the articles infected. Virden found that linen, calico, flock and cotton articles became scorched and brittle at 255° Fahr., and ignited at 380°; hemp and horsehair singed at 260° Fahr., and ignited at 400°. At the time the ticks singed the temperature in a feather pillow was only 130°, and that in a flock pillow 215°. In order to get a moist heat, six buckets of water were placed in the oven, and the temperature raised to 300° Fahr. A feather and a flock pillow were then placed in the oven and the temperature gently raised until a thermometer lying on one of the pillows registered 340° Fahr. The thermometer in the center of the flock pillow stood at 290° Fahr., while that in the feather pillow registered much less, but with this great heat there was no scorplings or discoloration.

Soaking and boiling clothing is not considered as good as baking, but in case they can not be baked, boiling should be practiced. Infected milk, water and other liquids, if boiled, have never been known to communicate the disease.—*The Sanitary News*.

"WITH VERDURE CLAD."—A well known physician on West Market street has a pet monkey. It is one of those cute, mischievous monkeys, always monkeying with everything it can get its paws on. A few days ago Jocko got hold of a can of green paint and a brush. Securing a mirror he sat down in front of it and painted himself a beautiful olive green, from his neck to the tip of his tail.

The doctor's wife, as soon as she made the discovery, hurried to the neighboring drug store and procured a pint of turpentine. Taking the monkey in her lap she saturated him thoroughly with the fluid. He stood the operation heroically until the turpentine began to soak into the roots of his tail. Then with one wild bound and a horrible screech he sprang about fifteen feet into the air and struck on the kitchen roof. Then he scaled up the side of a brick house by the lightning rod to the roof, over chimney tops, along a telegraph wire, down a pole, and went tearing around the block as tho' pursued by a cyclone. Returning to the house he declared war upon the doctor, for whom, by the way, he hasn't much love, and before the struggle was ended the doc-

tor's left hand was badly lacerated. The doctor offers twenty-five dollars to any one who will steal that monkey. — *Louisville Commercial*.

Dr. J. T. Reeve, secretary of the State Board of Health of Wisconsin, has addressed a letter to an official who wrote that, because of the expense attending it, his township would not organize a board of health. The letter is a vigorous one, and shows that the law requiring the organization of a board of health is mandatory, and the question is not left to the judgment of town officials. The organization of these local boards of health in townships, cities and villages is a marked feature of the sanitary work of most of our state boards of health. — *Sanitary News*.

THE EXPLORING NEEDLE FOLLY. — The tubular needle furnished with all hypodermic syringes is a far better instrument for exploration than the grooved needle called an exploring needle, and has the additional advantage that it can be used with the syringe attached, which, when so employed, becomes a small aspirating pump. The exploring needle should be discarded from all pocket cases, and substituted by the hypodermic syringe, which

is needed also for subcutaneous medication. — *The Polyclinic*.

SHELLAC SPIRIT FOR HANGING PAPER. — The Germans are utilizing a discovery for hanging paper on damp walls. It consists of coating a lining paper on one side with a solution of shellac spirit, of somewhat more consistency than the ordinary French polish, and then hanging it with the side thus treated to the damp wall. Any other resin that is equally soluble in spirits may be used instead of shellac. This process is equally effective in preventing the penetration of dampness. — *American Stationer*.

TWO LADIES were conversing about the late war. One said: "It is too bad that Jeff. Davis is disfranchised."

"Disfranchised," the other remarked, "I did not know it; how long has he been disfranchised?"

"Why ever since the war."

The other lady, musingly: "Well now, I don't see how that can be; I am sure Mrs. Davis has had one or two children since the war." — *Ex*.

DR. P. V. SCHENCK, of St. Louis, asserts that "there is a testicle force in man."

Oh my!

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CORRESPONDENCE FROM PHYSICIANS PROMPTLY ANSWERED.

Original Articles.

MUD BATHS.

By O. E. DAVIS, M.D., Cincinnati, O.

Bathing after some fashion or another is an instinct common to all living nature. The sprinkling of the vegetable kingdom in all its varieties, from the tall oak to the humble moss, by rain, vapor or dew, must be regarded as a bath, by which insects are destroyed, dust removed and fluid furnished for nutrition.

Bathing may be regarded as a practice not only congenial to our feelings, but conducive to bodily health and comfort. We cannot doubt its antiquity when we see it resorted to from the wandering savage of the woods to the polished inhabitants of civilization.

The importance attached to bathing as a means of cure of loathsome diseases is illustrated by the prophet Elisha, commanding the leper Naaman to bathe seven times in the river Jordan, as also the command of our Saviour for the blind man to wash in the pool of Siloam. The pool of Bethesda was a resort for the sick and the infirm.

The question of the utility of bathing as a matter of hygiene and as a remedial agent is placed beyond all controversy by the example of so many, in all ages, and in every clime, resorting to some kind of bathing.

But science throws the light of physiology upon bathing and gives its approval of the practice, and to it I shall appeal by giving a brief sketch of the structure and functions of the skin, and of its relation with the principal organs of the human frame. The skin, the external envelope or covering of the body, consists of two layers: the external, cuticle, or scarf skin, and the internal, called "cutis vera" or true skin, with the oil secreting and perspiration glands.

The true skin consists of a dense elastic tissue, with numerous openings, for the transmission of blood-vessels and nerves from its under surface and an intricate web-work of minute vessels, nerves and absorbents, distributed over its upper surface. The true skin also contains in its substance the sebaceous follicles and transmits the ducts of the sweat glands that lie beneath it.

The sweat glands are small rounded bodies, situated on the tissue beneath the

skin, and under the microscope each gland shows itself to be a spiral or rounded tube, one end of which is closed and the other or external end passes through the true skin and opens obliquely by a pore upon the surface of the cuticle or scarf skin, so that the orifice is covered by a minute valve of the outer layer of the skin.

Taken separately each little sweat tube with its appended gland does not seem to be of much importance to the human system to which it belongs, but, unless the vast numbers of them are considered, we are led to form an imperfect notion of their influence on the health and comfort of an individual. The reality of their number surpassing imagination or belief. These little pores have been carefully counted upon the palm of the hand and each square inch found to contain over 3,500 pores. To obtain an estimate of the length of the perspiration tube of the whole body, to make the calculation, take 2,800 pores to the square inch, each pore one-fourth of an inch in length and to an average-sized man 2,500 square inches to the body, reduce the inches to feet, the feet to yards, the yards to miles, and you will have about twenty-eight miles of sweat duct on a man of ordinary size and weight.

The skin serves to bring us into relation with the external world, and apprizes us of the temperature of substances surrounding us. In this way the brain is continually impressed through the skin by connecting nerves or telegraph wires, so to speak, and the frame of mind is influenced greatly by the force and extent of these impressions. So when you see a pig wallowing in his mud bath, with the hot rays of the sun pouring down upon him, do not disturb him or stop his familiar grunt. He is enjoying himself.

The skin performs the function of absorption, by which various substances are introduced into the body, and hence it becomes an organ of supply for the wants of the animal economy. Many articles of the materia medica may in this way be introduced into the blood by absorption through the skin, endermically or hypodermically administered, and produce all their distinctive effects upon the different organs in the same manner as if taken into the stomach, and with greater rapidity.

Equally important as the function of absorption is that of exhalation or elimination performed by the skin.

The excretion of perspiration or sweat,

and of carbonic acid by the skin, serves to purify the blood by the elimination of noxious and effete matter, and to equalize animal heat.

The fluid of sensible perspiration or sweat holds in solution various saline substances, such as phosphate of soda and lime, carbonate of lime, common salt, sulphate of soda, muriate of ammonia and potash, and lactic, acetic, and uric acids.

The acid reaction and smell of sweat is due to the uric and lactic acid in it. The entire loss by exhalation or elimination by the skin is two and a half pounds per day.

This much has been written upon the anatomy and physiology of the skin, the better to illustrate the wonderful power it exerts in eliminating from the blood all poisonous or toxic properties, whatever their nature or character may be, or thro' whatever channel introduced into the system, producing toxæmia and toxicosis.

For the purpose of bringing into activity the healing functions of the skin, baths have been in use from the remotest ages, such as the various kinds of water, vapor, gaseous, and medicated mud found at thermal springs. So much has been written upon the subject of baths in general, I pass immediately to the subject of mud baths. The first one I read of is recorded in the Bible, where the Saviour spit upon the ground, made spittle, and anointed the woman's eyes, and it was a good bath, for it made the blind see.

The principal mud baths of which we have any knowledge are in France, Germany and Italy, a few resorts in each, and at Hot Springs, Arkansas, and Las Vegas, New Mexico, on our own continent. The *mud holes* at the thermal springs in New Mexico have been resorted to by the natives for over three hundred years, many of whom would travel on foot hundreds and thousands of miles to reach their favorite mud.

At these resorts when mud baths are given it is certainly in a very old fashioned, primitive way. A cavity is scooped out of the mud, sufficiently deep to allow the body of the patient being received in it, the head and shoulders being slightly raised. Quite recently at Las Vegas they have some wooden tubs in a wooden shanty, where mud baths are given.

Mud baths excite the skin much more than liquid baths; they cause a greater degree of redness, bring out more eruption,

and stimulate both the vascular and nervous tissue of the skin.

Mud baths are more active in their operation upon the human frame than those of the mineral waters, owing in part to the concentration of the saline principles and the greater pressure and tenacity of the application.

These baths are used not only with marked benefit, but with wonderful effect in chronic cutaneous diseases nervous affections, rheumatic gout, and in the stiffness and contraction of joints, the results of rheumatic gout.

Miraculous cures have been effected by their use in a great many ataxic difficulties, neuralgia and paralysis, together with all forms of blood diseases, such as syphilis, scrofula, etc.

Having myself been for nearly five years a sufferer from blood poison, received in an operation for necrosis of tibia, and having consulted the best surgeons in America, whose directions and prescriptions I have honestly and faithfully carried out to the letter, and after having tested sea air and baths, and visited the Hot Springs of Arkansas, and the Mineral Springs of Michigan, being still an invalid, I was induced by friends to go to Las Vegas, New Mexico. When I reached the place I was suffering from a large ulcer upon the left wrist, involving the lower end of the ulna, the carpal and metacarpal bones. I had also numerous large ulcers upon the scalp, and a large one on the spine of left tibia and a very painful exostoses of the internal malleolus of same limb. I was suffering greatly from rheumatic and neuralgic pains all over my body, and felt myself to be a total wreck, and that the time had come for me to pass to that undiscovered country. But thanks to the mud baths of Las Vegas, I am restored.

While taking the baths (of which I took sixty-eight), and watching closely their effects upon myself and numerous others, I was led to exclaim, Eureka! and reasoned in this manner with myself: I am poisoned, it makes no difference what the nature of the poison may be, it enters the circulation and floats with the blood to the entire organism, producing all the peculiar effects known to science of each particular poison. How am I to get rid of it? the system has but three channels through which poison may be eliminated, the bowels, the kidneys and the skin.

The skin is the emunctory par excellence, and the huge poultice of mud opens the exhalants of the skin, and the poison, whatever it may be, is eliminated or deposited in the tub. These baths of mud at the springs are made of earth found near by, and through which the hot mineral waters have percolated for ages. The earth is a mixture of organic and mineral matter with vegetable debris.

These deposits are not inexhaustable, and the time is not far distant when it will all have been used.

The idea occurred to me, that organic matter, mud, bog or peat, found in any locality, could by medication be made equal to, if not superior to the mud in use at the springs.

Medicated mud baths may be acid or alkaline, saline, sulphurous, ferruginous, mercurial, iodated or bromated.

The Cincinnati Medicated Mud Bath Company has opened a bath house at 439 West Eighth street, elegant in all its appointments, and spotlessly clean and white as snow, except the mud in the tub.

The mud now in use is made by medication, the same as the Las Vegas' mud, but physicians sending patients for baths, can have them medicated according to their own formula, to suit each case. The expectations of those engaged in this enterprise have been more than doubly realized, as all those who have taken the baths, are walking advertisements of their healing virtues.

LIGATION OF THE FEMORAL ARTERY FOR ELEPHANTIASIS.

Editor Lancet and Clinic:

In the very interesting report (LANCET AND CLINIC, Oct. 4th) of Dr. Ravogli's remarks, at a late meeting of the Academy, upon elephantiasis, it is stated that "the attempt has been made to tie the crural artery, but every attempt was followed by a fatal result." This must be a *lapsus penna*. Carnochan's first operation, in 1851, so far from proving fatal, was followed by apparently complete recovery. Ten years ago Wernher tabulated *twenty-four* cases, death occurring in only *three*. Without doubt, as was declared by Marduel of Lyons, the relief experienced by the ligation may be expected to be but temporary, recurrence of the growth being almost sure to take place.

I was especially interested in Dr. Ravogli's remarks, as the case reported by him had been under my observation and care since the patient's early childhood, the last illness occurring during my late absence from the city. P. S. CONNER.

159 W. Ninth St., Oct. 6, 1884.

Society Reports.

ACADEMY OF MEDICINE.

Meeting of September 15, 1884.

W. H. WENNING, M.D., G. A. FACKLER, M.D.,
Pres't in the Chair. *Secretary.*

DR. CLEVELAND read the following case of
Tubercular Meningitis:

July 2nd, Harry N., aged 5 years. For the last three years I have had the little patient under treatment at irregular intervals for diarrhoea. The mother not seeing any permanent good effect from treatment eventually stopped medication. So perhaps for the last twelve months the diarrhoea has been allowed to run its course. Notwithstanding the chronic flux, the child's nutrition was very good, and with the exception of the diarrhoea, appears to be a child in ordinary good health. At this period, July 2nd, 1884, my attention was called again to the child. He did not look sick, he was well nourished, his appetite was good, and he had no fever, the diarrhoea being chronic did not cause any alarm. The mother said the child certainly was not well, he complained of headache almost constantly, was very cross and irritable, his disposition from being pleasant had become very ugly. I watched the child at intervals for a week or two, and came to the conclusion that undue anxiety of the mother was at the bottom of the whole trouble. I knew that the child was spoilt and petted. I thought that the willfulness of the child, and yielding nature of the mother enabled the child to get whatever he wanted to eat, and according to admission his appetite was good, that he ate too freely, which kept up his diarrhoea, caused his headache and irritable disposition. I treated the patient upon this hypothesis with unsatisfactory results. Dieting and checking the diarrhoea seemed to aggravate the trouble. I soon became aware that I had a pathological condition, and not merely a derangement of function to deal with.

About the middle of July his eyelids be-

gan to puff, and examining his feet they were found to be tensely swelled; before this his mother had told me that his urine was scant, but this I had explained by his liquid discharges per rectum. I examined the water but found no albumen but a high specific gravity, at one time I found a mere trace of albumen. This oedema became more and more marked until the eyes were closed and the skin of the feet and legs looked white and shiny. The headache and diarrhoea continued, but he had lost his appetite, he was dull and stupid and wished to be let alone. At times there was almost an entire suppression of urine, and then he would pass it quite freely. About this time petechia came out over the entire body, but worst on the face and legs. When first noticed I thought they were mosquito bites. His oedema now began to disappear, and I found that the little patient was emaciating very rapidly. The child now looked like an invalid, and had the appearance of suffering pain.

July 20th a new symptom made its appearance. At first I only had the parents description, but I afterwards saw it. The child lay with his eyes fixed, and head and extremities rigid while breathing would be scarcely perceptible, and it showed no signs of intelligence. You could not rouse him by pinching or speaking to him. This would continue for a minute or more, then he would sigh, become relaxed and breathe rapidly, conduct himself as usual and be entirely unconscious that anything had happened; after these attacks he was fatigued and slept. This occurred daily and sometimes oftener for about one week and then ceased entirely. Up to this time, August 1st, I had never found him with fever. His body now began to show more marked signs of emaciation, part of the time he spent in bed, and part of the time he sat up and walked around; he complained of pain in the head all the time, and his corrugated brow and facial appearance showed that he suffered. Fever now began to be observed for the first time, never running above 100° or 101° in the morning, temperature normal or even sub-normal in the axilla. It was irregularly intermittent in character. His diarrhoea continued as usual, his kidneys, though occasionally still showing signs of torpidity, secreted more normally than before. No appetite, refusing to eat except from caprice, one day he would eat voraciously of tomatoes, then

for a day or two he would refuse everything, and thus it would go.

August 8th he began to grow duller and more listless than he had been, he kept to his bed refusing to sit up or attempt to walk. When spoken to he would say his head hurt him, thus he would lay in a condition of semi-stupor, and at intervals would heave a sigh. After this had continued for three or four days, and while moving him around the mother discovered that he had lost the use of his legs. I could not tell whether there was complete loss of motion or not; apparently there was, for if I pricked or pinched his foot or leg he would cry bitterly, but the member would not move.

About this time, August 11th, he sank into a profound stupor; part of the time he could not be aroused at all, and when aroused he would immediately relapse into the condition of stupor, and at intervals would take a deep sighing respiration. All this time the fever had continued as above stated. This state of stupor continued until the 14th, when the child gradually became conscious, noticed things, called for milk and water, but his lower extremities still remained motionless. For two or three days he appeared to improve.

On the 17th he had a general convulsion, fever went up to 103° , and all symptoms became worse and foreshadowed a fatal termination. A second crop of petechia came out over the face and body similar to the first. Tonic spasms on the hands and feet ensued, the fingers being drawn in on the palm, and the toes being drawn down similarly, the temperature went up to 104° , and did not subside during life. Death ensued August 19th. I omitted to mention that vomiting was an early and annoying feature. Family history good.

DISCUSSION.

DR. JONES said, that when he saw the case it was in a comatose condition, and but two hours before death. From the description and appearance of the case he had suggested the possible existence of a tubercular meningitis.

DR. RANSOHOFF inquired whether the question of the existence of kidney trouble did not arise. The child had no tubercular history, suffered with diarrhoea for two or three years, and subsequently symptoms developed which attend Bright's disease in children, as the oedema of eyelids and legs, and subsequently cerebral symptoms and albumen in the urine.

DR. CLEVELAND said that the diarrhoea was not thought of as an attending symptom of Bright's disease, because it was of so long standing. There was no appearance of albumen except at one instance. The case was an obscure one, and possibly Bright's disease may have produced the train of symptoms narrated. The diagnosis of tubercular meningitis, however, seemed more plausible. There was not the acute invasion of Bright's disease, nor any preceding disease as scarlet fever, nor was it a case of catching cold.

DR. ZENNER remarked, that we could not exclude Bright's disease on account of the obscurity of the ordinary symptoms. He would illustrate this by a case which he had attended. He had been called to see a child in convulsions. It had enjoyed the best of health until the day before, when it injured its foot and in consequence was confined to bed for 24 hours. In the morning it was drowsy and stupid. At noon it was seized with convulsions, which recurred a dozen times within eight or ten hours. Upon examination, albumen was detected in the urine. The Bright's disease had previously not manifested itself by the slightest symptom. A tubercular meningitis would scarcely explain the symptoms related in Dr. Cleveland's case. A slow pulse is a common feature during the middle portion of the disease, but does not continue so for four weeks.

DR. NICKLES was inclined to consider this a case of kidney disease rather than a tubercular meningitis. But without a post mortem no positive statement could be made. We know that scarlet fever has prevailed to some extent, and that some attacks are so slight as to pass unnoticed. Not long since a boy was brought to him suffering with anasarca. The speaker claimed that the boy had had scarlatina, but the parents denied it. Yet several cases existed in the neighborhood of the patients abode. The long continuance of the diarrhoea in Dr. Cleveland's case, points to kidney disease, it being one of its ordinary results. Possibly intestinal ulceration existed, which had caused an amyloid degeneration of the kidney.

DR. CLEVELAND stated that his treatment had at first been for kidney trouble, but was changed because he leaned toward the idea of it being a case of tubercular meningitis.

Meeting of September 22nd, 1884.

DR. HOTTENDORF read an essay on

The Abortive Treatment of Typhoid Fever.

During the last six years I met with twenty-three cases of typhoid fever, fifteen of these occurred in adults, and eight in children. The patients were located nearly all in my immediate neighborhood, in the North-western part of the city. I have the name and residence of each individual, and will gladly furnish the same to any one on application. All were treated on the abortive plan. The result has been most gratifying to myself as well as to my patients. Complete recovery took place in every instance, and the average duration of medical attendance of each patient amounted to sixteen days.

In case thirteen the disease was more protracted; the patient, a female, three months advanced in pregnancy, had a relapse, and the duration of her illness amounted to forty-eight days.

My usual mode was to give two 5 grain doses of calomel, six hours apart, in the early stage of the fever, always during the first week. In a few cases, where the fever was ushered in with considerable violence, I have given seven and a half grains doses of calomel. To children the dose was reduced in proportion. For a child from eight to ten years of age, two doses of two and a half grains each, were also given six hours apart.

It was always observed that the remedy produced a number foetid evacuations, and that, in the course of twenty-four to forty-eight hours the bodily temperature had constantly declined, at times as much as 3 and 4° F. If the patient would then be interrogated in regard to his condition, he would generally express himself as feeling better. The pain in the head and back, and the tenderness in the right iliac region on pressure had decreased in intensity, the tongue would show a better appearance, and the appetite was somewhat improved. The precaution has always been observed to have the evacuations thoroughly disinfected with chloride of lime.

In several instances I have seen a patient, after having taken the calomel, go right on to convalescence; the force of the fever was subdued, and little more in the way of medication was needed to effect a cure.

Ordinarily, however, there would be, in the course of five or six days, a gradual in-

crease again from day to day in the temperature. The following was then ordered:

R Spir. Mindereri ʒvij, Syr. Ipecacuanhæ gijj, Glycerini ʒv. m. s. A tablespoonful every two hours.

If restlessness during the night should supervene, ʒss of Bromide of Potassium was given at bed-time. If this did not have the desired effect in the course of two or three hours, the same dose would be repeated.

Whenever the temperature during the disease, however, rose to 104° F., then an Infusion of Digitalis would be given in addition, and the patient be frequently sponged with moderately cool water. I have thus in all these cases been able to keep the temperature at a comparatively low degree. Should it occur, however, that a patient would present, where the thermometer would reach 106 or 107° F., and these measures should fail to produce the desired result, I should certainly make use of a full dose of Quinine, 15 to 20 grains for instance, to be followed with 5 to 10 grains doses every twelve to twenty-four hours, until the high bodily temperature was reduced. It is this, that wants to be carefully guarded against, for it is the continued high temperature that so often proves disastrous to a typhoid fever patient.

As a tonic, after the fever had abated, the Cp. Tr. of Cinchona, or small doses of Quinine were used. I have never observed any bad effects from the mercurial preparation in the way of salivation or otherwise. The resulting diarrhoea has generally ceased of its own accord, once only in the case of a delicate female was it necessary to check the bowels with six drops of Tr. of Opium every three hours.

Complications or sequelæ as, inflammation of the thoracic organs, intestinal hemorrhage, perforation of the bowels, decubitus, abscesses, thrombosis, dropsy, loss of hair, I have not observed in a single instance in these cases. The calomel, in passing through the intestinal canal, certainly destroys the greater number of micro-organisms that inhabit the iliac portion of the small intestine in a typhoid fever patient; in consequence of this destruction the disease is cut short, partakes of a milder grade, and is more easy of management. The diet has consisted mainly of milk, eggs, milk-soups. Lemonade has freely been allowed at all times during the disease; only if a patient preferred water,

then this has been the drink. Where a stimulant was indicated at any time, moderate amounts of some good wine have been used.

From 1873 to 1876, while I was practicing medicine in the Province of Hannover, Germany, I met with four cases of typhoid fever. The treatment then was similar to the foregoing, only that no attempt was made to abort the disease in its early stage with calomel. The result then was, three recoveries, one death. The average duration of medical attendance in all cases had been thirty days. Once the disease was complicated with protracted intestinal hemorrhage. This same patient, a female, suffered the loss of nearly all her hair.

DISCUSSION.

DR. NICKLES said that the essayist ought certainly to be congratulated, because of his great success in the treatment of typhoid fever with calomel. His success has been decidedly greater than that obtained in Europe. Liebermeister, after giving this method of treatment a most complete trial, published his statistics in Ziemssen's Encyclopedia. L. administered, in 223 cases, 7½ gr. doses of calomel three or four times within twenty-four hours. This was done during the first week. Additional medication was guided by the symptom.

At the same time numerous other cases were treated, symptomatically (omitting the calomel), and a third class were put upon iodine. All in all about eight hundred cases were observed.

Of those treated with calomel about twelve per cent. died.

Of those treated with iodine about fifteen per cent. died.

Of those in whom neither of these remedies were employed, eighteen per cent. ended fatally.

Hence it was thought, that a beneficial effect might be ascribed to the calomel, since in some cases the duration of the disease seemed to have been abridged. If calomel is of some use, how does it act? As a cathartic or has it a specific effect? Typhoid fever is due to a low organism, which finds lodgment in the mucous membrane, and is not free in the intestinal canal. Hence the good effects of calomel cannot be ascribed to its cathartic action.

It has been supposed that part of the calomel is changed into corrosive sublimate, and this comes in contact with and destroys the specific germ. We know that if mer-

cury is administered and is not rapidly eliminated, it produces symptoms of poisoning. It exists in the blood as an oxy albumen. Calomel acts rapidly and very little is absorbed. Yet it must be supposed that the change of this small amount into corrosive sublimate is followed by beneficial effects, since from a cathartic no amelioration can be expected. Rhubarb or sulphate of magnesia might for this purpose be substituted for the calomel.

DR. CONNER hoped that the essayist would offer a more extensive report of his cases. Speaker desired more definite statements as to the age of the patients, time of the year when the cases occurred, and the thermometric range. It is hardly possible that a disease of this character can be cut short. In his opinion it is not abortable. It is doubtful whether it may be materially affected by any medicine. Speaker remembers the time when it was considered wisdom to keep the bowels quiet and not to produce disturbances which may be followed by serious effects. The duration of illness in children is frequently less than sixteen days, which was the average duration given by the essayist. Mercurials taken internally probably destroy micro-organisms as well as when applied externally. But when given in cathartic doses no such effect can be expected.

DR. GUSTAV ZINKE remarked that the subject under consideration is interesting on account of the existence of quite a number of cases in the city. He had never employed calomel in the treatment of typhoid fever, since he has observed bad results follow its administration in other cases. Since it is so difficult to make a definite diagnosis at the beginning of the disease, when shall we institute the abortive treatment? In the treatment of this disease speaker has been guided by the severity of the symptom. Even if constipation existed he has refrained from administering cathartics. If after a definite diagnosis of typhoid fever was made, the temperature should rise above 103°, antipyretic doses of quinia or salicylic acid were given. Diet is of the greatest importance. Milk, if well borne, should be given freely, if not, we must resort to meat-broths and mucilaginous food. Rest and diet are the principle points to be observed. If the temperature cannot be reduced by means of quinia or salicylic acid, we can employ the hot or cold baths. Frequent sponging with hot

water will effectually reduce the temperature. Even when hemorrhages occur, speaker does not interfere until loss of blood is so great as to enfeeble the patient. Has never seen a case of perforation and but two fatal cases, one of which died from the excessive temperature. The best results he has observed in cases, in which the least medication was employed, strict diet observed and in which frequent hot sponge baths have been used.

The president, DR. WENNING, remarked that during the last few months he had seen a dozen cases of typhoid fever. One died. In but one case had he made use of calomel. In this the temperature and pulse were high, the diarrhoea had been checked for four or five days, and the patient was now constipated. Ten grains of calomel were administered, and temperature and pulse were permanently reduced. It seemed but just to ascribe the favorable change to the remedy. The good results obtained in the treatment of typhoid fever may be ascribed to the mildness of the epidemic.

DR. CLEVELAND stated, that he had tried the calomel treatment, but did not look upon it as abortive. It is his favorite treatment to give a good dose of calomel at the beginning of any fever. He believes it to be a judicious plan to give a purgative at the inception of typhoid fever. It cleans the intestinal canal and does not increase the diarrhoea. On the contrary the secondary effects are good, there being a tendency to constipation. That a dose of calomel reduces the fever, speaker has observed. He does not claim rhubarb or sulphate of magnesia will not be followed by the same result. The judicious use of calomel at the inception of typhoid fever is beneficial. Its administration must be governed by its effect. Five or ten grains may be given within twenty-four hours, and this repeated for three or four days. If the diarrhoea is profuse the dose may be reduced or combined with opium.

DR. NICKLES remarked, that calomel had been given in fever during the last century, during the second decade in this century, and again recommended in 1830. But it had never been used methodically to watch its effect. It was employed throughout the disease until the gums were touched. It is not indifferent what cathartic is employed. The use of calomel is followed by a depletion of the mucous membrane of the intestines. Calomel acts upon the upper portion

of the small intestine, irritates the mucous membrane of the duodenum, and carries away a large amount of bile. The mucous membrane is depleted and the inflammation of Peyer's patches diminished. Not by small doses but by two or three large doses is depletion effected. As to treatment in general, speaker believes himself that too much is done. He had but lately a child under observation with the usual symptoms of typhoid fever. Nothing but a little hydrochloric acid was given and the child is well to-day. The cases in general have been mild. Speaker cannot understand how temperature can be reduced by heat. Only one thing beside medicine will abstract heat, and that is cold. Five or ten grains of quinia will not be followed by a decrease in temperature. If temperature rises repeatedly, quinia may be given in solution, since the gastric juice is defectively secreted and the drug in any other form will not be dissolved and absorbed.

DR. HOTTENDORF said, that typhoid fever is without doubt due to a micro-organism. Living germs, spirillæ, have been found inhabiting the iliac portion of the small intestines. A small amount of the calomel is changed into corrosive sublimate. The remainder passes through the canal, and coming in contact with, kills the low organisms, sweeps them out of the system, and thus the disease is cut short and assumes a mild grade. At the same time the fever is reduced 4° or 5°. Five grain doses are given six hours apart. In the majority of cases but two doses are administered, and only during the first week. It is true, that during the first few days a definite diagnosis cannot be arrived at, but in no case was the treatment employed unless pronounced symptoms of the disease were present. Of the twenty-three cases eight were children, and fifteen adults. When temperature was 104° to 105°, and delirium was present in the early part of the disease two seven and a half grains doses of calomel effected a decided reduction. Strict diet is always ordered. Speaker had always been able to control the temperature by this treatment. If it rose to 104°, he ordered digitalis and sponging with cool water. Has never had a case in which the temperature rose to 106° or 107°. But if the means enumerated should fail to reduce the fever, he would certainly resort to large doses of quinia, and keep the temperature down with subsequent small doses. In many of his cases

little medication was employed after the calomel. Prognosis was always rendered favorable when the case was seen early.

AMERICAN GYNECOLOGICAL SOCIETY.

Held at the Palmer House, Chicago, September 30, October 1 and 2, 1884.

DR. ALBERT H. SMITH in the President's chair. DR. FRANK P. FOSTER at the Secretary's desk.

Reported by Liston H. Montgomery.

Continued Report of Proceedings of Forenoon of First Day.

A paper entitled

Foreign Bodies in the Abdomen after Laparotomy,

Was read by DR. HENRY P. C. WILSON, of Baltimore, from which we append the following brief extract:

"One of the accidents of laparotomy is in overlooking a sponge, a pair of small forceps, or perhaps some other instrument, in the peritoneal or abdominal cavity. This may be discovered during life and certainly after death, if it be looked for, and indeed, it frequently is the cause of death. We would be surprised if it were known of the number of cases of this kind, but which are rarely given to the world, where accidents of this variety have occurred, and induced septicæmia, etc. It is difficult to collect statistics upon this subject, for our most honorable gynecologists do not speak of it. The whole number of cases he has been able to collect is twenty-one, out of which but five have ever been published. To this number he would add a case occurring in his own practice. Thus it is seen that more than two-thirds of the cases have never come to light, his own case making the sixth to be put on record as having been observed in this country, the other fifteen having occurred in Europe. Ten of the cases in Europe are yet unpublished.

In the six cases occurring here, a sponge was forgotten in five of the cases, and a pair of forceps was overlooked in the sixth case.

Two of these cases proved fatal and four recovered.

In the first of the six cases an assistant left a sponge remaining in the abdominal cavity.

In the second, a sponge was left and afterwards found behind the intestines.

In the third, a sponge, which caused septicæmia and death.

In the fourth, a sponge was revealed at the post mortem examination.

In the fifth, a pair of forceps.

In the sixth (which is his own case), a sponge was found six months after the operation. The sponge was then shown.

The reader quoted Mr. Lawson Tait, who reported a case that ended fatally, caused by a sponge being torn in two, the patient dying in four days after the operation.

The twelfth case of the fifteen above alluded to was described by Spencer Wells, where he performed the operation of laparotomy and had sixteen sponges. After completing the operation he called to an assistant and said, "count the sponges, are they all here?" "You have left a sponge in the woman's abdomen," a nurse replied, and said she had all the sponges. Upon being interrogated again, she replied that she had them all. The pails and napkins were all searched. Though the operator suspected that one of the sponges was yet missing, the operation was completed at two or three o'clock, P.M. At 6 P.M. the patient seemed pretty well, he decided to wait; next morning the patient was very ill. Two stitches were removed, search made, and the missing sponge recovered, and the woman was not much, if any, the worse; she recovered.

The thirteenth case was also in the hands of Spencer Wells, wherein he removed both ovaries. In two hours after the operation a pair of forceps was missing. In the afternoon the woman seemed well, at night pretty well, and the following morning he was informed that she had had a restless night. A vaginal and rectal examination revealed nothing; patient uneasy. He opened the wound. Mr. Thornton, an assistant, changed the dressing. Search revealed the forceps wrapped up in the omentum. However she was none the worse for the accident.

The fourteenth European case was Carl Braun's, where the assistant let a sponge remain.

The fifteenth European case was the same operator's, where a pair of "bull-dog" forceps were left in the abdominal cavity after an operation for the removal of an ovarian tumor in a woman five months advanced in pregnancy. The forceps were afterwards found as above suspected. She

made a perfect recovery, and had excellent health.

This is the only case published where forceps have been forgotten, so far as the writer has been able to ascertain.

The case last cited was operated on July 20, 1883. She was a Mrs. B., aged 29, married seven years, had had three children, operated on at St. Vincent's Hospital, London. Her general appearance was healthy; diagnosis, ovarian tumor of right ovary. The foetal heart could not be heard. Operation lasted forty minutes, under the carbolized spray, all instruments carbolized, and all other necessary antiseptic precautions observed. The woman vomited twenty minutes after the operation, and she miscarried August 17, eighteen days after the operation for ovariectomy had been performed. December 9, 1883 she weighed more than she ever did in her life, and the case all through is unparalleled in ovarian surgery.

The writer felt sure he was within the bounds of truth and reason when he stated that the twenty-one cases he has reported are not one fifth of the cases of this kind. Operators should be more circumspect in details, and count all their instruments and sponges before operating and at the close of an operation see if a proper tally can be made; then to have as few instruments and sponges as possible. Too many are unnecessary, and render the accident more liable to occur. And operators should do their own sponging. They should have one reliable assistant to hand their instruments to them, one to administer the anæsthetic, and one other assistant to remove the slops and empty the debris.

The sponges to be used should be of perfect strength and softness, and they should not be cut in two. Have as few small ones as possible, and they are to be undivided. Torsion forceps and others should not be too small. The author preferred two good assistants to any other number, and preferred none rather than to have five assistants.

DISCUSSION.

DR. T. GAILLARD THOMAS.—The paper is characterized by frankness. His experience consisted of over 400 cases of laparotomy, and only one accident of this kind had ever occurred, and that was several years ago, while operating at the Woman's Hospital in New York for cancer of the spleen, which involved the bladder and

kidneys. He stated to the friends beforehand that the case was a hopeless one, but they clamored for an operation. He made an exploratory incision. He had no sponge in his hand. His assistant, Dr. James P. Hunter, sponged out the incision and sewed up the opening. The anæsthetic used was ether, which, by way of parenthesis, the speaker stated was more dangerous in its results to give to patients having renal disease than chloroform, for cessation of urine was prone to occur, and in this case no urine was secreted by the kidneys after the administration of the ether. Since his experience with this case he has not followed the use of chloroform where the kidneys are seriously affected.

The operation was a trivial one, but the poor woman became comatose soon after it, and shortly died.

At the autopsy a very small piece of sponge was found; it had broken off and disappeared unnoticed to himself and assistant.

In many of these operations hemorrhage is so profuse that we are obliged to entrust sponging the parts to an assistant. The plan of counting the sponges and instruments before and after an operation is an excellent one to follow; we should have as few instruments as we can get along with, and have one assistant to hand to the operator instruments, also a second assistant to do the sponging and a third for the anæsthetic. His method is to have attached to the sponge a piece of tape six inches long, which makes the plan a safer one and prevents sponges being lost or left in the abdomen. He also agreed with Dr. Wilson that the list of this form of accident would be much longer if all were published.

DR. A. REEVES JACKSON, who added a few words upon the statistics of these accidents, agreed with the gentleman who had preceeded him, that most operators would blush to publish such an accident, more especially when it was not discovered until post mortem examination revealed it. His rules accord with those of the essayist in having a written list of instruments and sponges, and in instructing his assistants not to tear the sponges, and after the operation they should be collected and inspected before the sewing together process is completed, and see if a correct tally results. He regarded the paper as a most commendable, practicable and useful one.

DR. JOHN C. REEVE stated that the

author did not say anything about the kind of sponges he uses. The speaker uses those that are perfectly antiseptic.

DR. ALEXANDER DUNLAP.—In his experience in cases of this kind believes he has as yet never left any instrument or sponge behind in the manner the essayist alluded to. If so he has not yet found it out. He uses very few instruments, however, and allows no one to hand them to him. One assistant hands him sponges. He for this reason was sure to recognize all instruments that he had used, and he always counted the sponges.

Then again, speaker thought oftentimes operators cut too long an incision in the abdomen, but if it was necessary to get two hands in the cavity, he allowed no one to do this but himself, and asked Dr. Wilson the direct question if he practiced this method.

DR. WILSON replied by stating that his practice consisted in holding the intestines up well, while the patient was in a *half reclining position* on her side, as this afforded better drainage even of the cavity about Douglas cul-de-sac, and also about the diaphragm. He further stated that he had no dread of making a free incision so as to enable him to view the pelvic cavity.

DR. DUNLAP resumed by adding a word or two, namely, that Poleau forceps or any other kind used to twist a vessel should be carefully set aside, or when ligatures are used, they should be cut short. That the greatest caution should be observed in making too free incisions. He should think that in two or three days, at farthest, symptoms would manifest themselves if any foreign body were left remaining in the abdominal cavity in the form of a sponge or an instrument.

DR. WM. T. HOWARD stated that in one of the London Hospitals fifteen sponges were prepared for these operations, whether they were all used or not. In a case of gastrotomy which was performed upon a woman in London nearly nineteen years ago, the patient complained next day of a good deal of distress and uneasiness. The cause of the trouble was suspected, the wound was opened, and a sponge that had been left in was removed, and the patient got well.

Another case he had heard of was where the gentleman who operated thought he had left a sponge. He opened the abdomen again, and the patient, a woman, died

from the effects of the wound being opened a second time, but the sponge was not discovered.

Regarding the use of ether and chloroform in cases where the kidneys were diseased, the speaker cited a case where he used chloroform to operate on a vesico-vaginal fistula in a colored woman, caused by the delivery of a child having a hydrocephalic head. The posterior vaginal wall was torn two inches. By the use of hot water injections and suitable treatment, in a month the rent was the size of a dime. She died shortly afterwards from Bright's disease.

DR. THOMAS said that in the case alluded to ether checked the secretion of urine.

DR. GEORGE J. ENGELMANN added one more case to those reported by the author of the paper, where Dr. Theophilus Parvin operated upon a lady of prominence. A prominent eastern physician was present. There was considerable hemorrhage, and the invited guest began to sponge, notwithstanding Dr. Parvin's remonstrance. When the operation was finished a sponge was missing. The gentleman who supplanted the regular assistant, and also the nurse, assured Dr. Parvin that everything was all right. The operator, against his convictions, allowed the woman to be removed to bed, after making a somewhat superficial examination of the cavity. In a day or so the patient died with symptoms of dementia, and the sponge was found high up in the abdomen between a fold of omentum and the large intestine. Each assistant in these cases should have a separate duty, and should then be held responsible.

DR. MUNDE suggested that small or flat sponges should not be used a second time, as they are friable. Never tear a sponge, but before operating cut exactly as many as there are holders.

DR. WILSON would in the future use Dr. Thomas's method. He uses only antiseptic sponges. He concurred with Dr. Dunlap as to the length of the incision. The discussion had brought to light seven new cases, which corroborated his statement that not a third of such accidents were reported. There are now twenty-eight reported.

On motion the Society adjourned until 3 o'clock.

The LANCET & CLINIC and OBSTETRIC GAZETTE to one address one year for \$5.00.

Afternoon Session of the First Day.

Meeting called to order at three o'clock. President Albert H. Smith in the chair.

Abdominal Section, as a Means in Diagnosis and Treatment,

Is the revised title of a paper announced on the programme was read by Dr. C. D. Palmer, of Cincinnati, as "Abdominal Section, its Value and Range of Application."

This paper was very lengthy, and an extremely valuable one, but we are obliged to abridge its contents for want of space, and confine our narrowed limits to the following condensed extract of it, which epitomized, is about as follows:

Said the writer, his experience was limited to five cases, which, however, he omitted to state the details of although a portion of his paper. That death occurred in four of them in from three to thirty days, and one is yet living since the operation which was done sixteen months ago. Regarding abdominal section for ovarian tumors, although tapping may "clear up" the diagnosis an incision may be necessary to do so, if those forms of tumors are complicated, as they certainly are not always uncomplicated. Interstitial and other forms of uterine fibroids may be present, and some of them may cease to grow after they have attained a certain size. Abdominal section, whether for Oöphorectomy or Hysterectomy each of which may be necessary to perform ultimately, as also for certain and acute causes of peritonitis, intestinal obstructions, twisting of some of the organs, and peritonitis, unless overcome by other methods, may demand this form of timely interference.

Some cases of chronic pelvic abscess may require abdominal section and then be followed by free irrigation. Extra uterine pregnancy after the fourth month will require doubtless the operation of laparotomy, whether this form of pregnancy be tubal or interstitial, abdominal section may be the only means by which this deplorable condition of things can be positively determined, and if nothing is ventured in this direction, then certainly there can nothing be won.

DISCUSSION.

DR. ENGELMAN stated, that exploratory incision has been practiced too little as a means of diagnosis. If by percussion and bimannual examination and other methods we are unable to arrive at a correct diagno-

sis, it is fair to conclude that an exploratory incision may be the only way to determine the *status* of the difficulty. Then if we have been aided by so doing to diagnose a case, and circumstances are not favorable to operate further, we should certainly not proceed further, but close the wound at once. This form of incision is not as dangerous as tapping. He had had three cases in which he practiced abdominal section, although in each case it was against his will and better judgment to proceed further, as he found the conditions unfavorable, and he closed the incision at once in each case. The first case was one of uterine cancer, that he thought might possibly be removed by the abdominal method, but on opening the abdominal cavity the omentum was seen to be diseased and largely involved with cancerous deposit. He thought perhaps the uterus only was affected, as it was freely movable.

In the second case several coils of intestine were adherent at different points, the result of inflammatory disease products.

The third case was one also of carcinoma of the uterus, wherein he resorted to an exploration to more thoroughly satisfy himself regarding the extent of the disease.

DR. DUNLAP said, he had never practiced abdominal section as a means of diagnosis. The patients he had seen requiring this, were in such a deplorable condition that to have done so would have proved fatal, so he carried them along by giving palliative measures. He therefore had no experience to give to the fellows upon this subject.

DR. MUNDE, it seemed to him, the explorations of this kind for disease located in the abdomen should receive more encouragement, that not enough stress was laid on this he thought all would agree to. Laparotomists expect first to make large incisions, and then go on with the operation, when they once start they want to go ahead if warranted to do so. The speaker thought the essayist had brought before us a very important point in his paper, namely that of abdominal section. It is a safe procedure. The mortality from tapping is twenty-five per cent. It surely was not as great from exploratory incision, nor in ovariectomy either. When we have made the incision, we may be induced to stop, both for the good of the patient and for our own good as well. He has a case at present which he thinks in about a month he will remove a myoma, if a coil of intestine or some

other organ be involved, he probably will desist further operating beyond that of abdominal section. If there is an intra-abdominal hernia close to the diaphragm, or to the pubes, this procedure may be necessary to follow.

One other point, if a pelvic abscess, pointed to the abdominal wall, it would hardly be necessary to make an exploratory incision, but to aspirate it instead, and no particular damage could result; or if an incision is made into the abscess there is no particular danger, if even some branches of the epigastric or superior epigastric arteries are cut, they will all get well, at least his cases got well.

DR. WILSON said, after all, every laparotomy is the continuation of an exploratory incision. He is anxious to know what is in the abdomen, and until he sees what is in there he is in doubt as to the exact nature and extent of the difficulty. He has lost cases by tapping, but has lost a lesser number by external incision. Only two weeks ago he lost a case, the result of tapping, it was a case of amniotic dropsy. The woman had not laid down for a month, although he felt more willing to cut than tap her, yet he chose the latter. She was five months advanced in pregnancy along with the cystic disease of the ovary. The walls of the uterus were very thin, indeed, not thicker than the cyst containing the dropsical fluid. He drew off six gallons of water, shortly afterward her pulse rose to 100, temperature 99° F. The os uteri was closed, the woman died soon after when it was discovered she had twins in utero. The gentleman closed by stating that he was a great advocate of exploratory incisions.

DR. R. B. MAURY has had an experience covering two cases of abdominal section. The first was that made in a case of multilocular ovarian cyst, in which he had this recourse, the diagnosis was concurred in by three other gentlemen, the tumor was crossed by a coil of intestine, and it could not be dislodged, the tumor was lying in between the walls of the mesentery, this he also incised, the patient lived for twelve months afterwards, although he did not complete the operation of removal of the tumors. His second case was that of a myoma, and the question also was of removing both ovaries, abdominal section was made, to complete the operation was impossible, which was abandoned. This woman also recovered.

DR. A. R. JACKSON, of Chicago, stated,

that the paper embraces a wider discussion than has yet been participated in by the fellows, very little has been said regarding the therapeutics in these cases. He hoped therefore to hear the newest methods of treatment in these cases advanced, especially in cases of pelvic abscess, although he had no experience to offer, but arose to state that he hoped to hear from others on this subject.

DR. DUNLAP, of Springfield, Ohio, has had two cases of this kind. The first was one in which the diagnosis had been made as being malignant in character, another medical gentleman diagnosed the case to be an impacted colon. The speaker's diagnosis was psoas abscess. He made an incision across the median line. He was not certain now whether there were adhesions, but the case was successful. The other case was that of packing of the colon and pressure, which he relieved by making an incision into the abdominal wall, carrying it on through the colon.

DR. JOHN SCOTT, of San Francisco, gave his views and experience upon the subject. His first case being one that might properly be termed pyosalpinx, involving the left fallopian tube and left lateral ligament. The patient was in an advanced state of emaciation, her left thigh and knee was flexed so as to be drawn up to the abdomen. And he could define the limits of the swelling. The case was one at the California woman's hospital in San Francisco; upon consultation with his confreres regarding abdominal section being made, the majority of the staff voted against his doing this so he was dissuaded from attempting it at that time. The operation was postponed for several weeks, when constant vomiting, diarrhoea, and septicæmia set in. Another consultation was held, and the gentlemen concurred in his opinion of operating. The incision was made, the cavity opened and the pus evacuated, the bowels were also opened. The operation was satisfactory. The opening was then closed and recovery followed, and he was sorry he had not operated three weeks earlier.

His second case occurred but a few months ago, being that of a woman, which did not result satisfactorily. It was a case of pelvic abscess. Her temperature at the time he evacuated a large quantity of pus was $101\frac{1}{2}^{\circ}$ to 102° F., and pulse rapid. He was disappointed at not seeing the pulse and temperature lower after this procedure.

She had rigors the day following, he probed and found more pus, cellulitis and salpingitis set in, so that the right tube became enormously distended. The surrounding parts became gangrenous, the abscess was washed with solutions of bichloride of mercury, two ounces of vile pus escaped at one of the washings. She died the second night after the operation.

DR. JACKSON of Chicago, at this stage of the discussion stated, that, inasmuch as the attendance was quite large, and as a number of names were in the hands of the council, he moved that the council be asked to report on the petitions of those gentlemen, and if favorable, that they be invited also to take part in the proceedings, and participate in the Association as invited guests or members by invitation. The motion unanimously prevailed.

DR. PALMER, of Cincinnati, closed, by stating, he was sorry that the title of the paper was not more fully understood, and sorry that fuller discussion was not called out, the fellows only having followed the title of his paper as announced on the programme, instead of the announcement he gave at the onset. In the majority of cases of abdominal section that have been made where the patients died, death usually occurred in from three to ten days. If the abdominal viscera are not interfered with, the number of deaths are less.

Peasly says, tapping increases the danger, that fifty per cent. of them die from tapping, while some operators state that only three per cent. die from tapping. Tapping does not tell us in many instances what the trouble is, nor does aspiration, as for instance where there is a solid uterine myoma. In pelvic abscess an exploratory incision is best and is by far preferable where there is a tortuous course or burrowing of pus. To make the incision we are then better enabled to drain away the pus from its uppermost cavity perhaps, and for the reasons of diagnosis and treatment an incision is the better method, whether in cases of pelvic abscess, pelvic peritonitis, cases of periuterine pregnancy, and for the other conditions that have been enumerated in the discussion, besides it affords us better means of making personal exploration.

DR. HOWARD, of Baltimore, offered a motion, which was carried, that gentlemen present at the meeting be invited to read their papers first, whether they be in the order as printed on the programme or not.

Upon canvassing the number present it was ascertained that the authors of seven papers were absent, nor would they be able to be here, which all of us very much regretted.

The fourth paper on the programme,

The Hygiene of Pregnancy,

By DR. SAMUEL C. BUSSEY, of Washington, was read by title and passed, as also was the fifth paper, entitled:

Rapid Dilatation of the Cervical Canal,

By DR. WILLIAM GOODELL, of Philadelphia.

Paper number six was called for, viz:

Cervical Fibroids as a cause of Dystocia, and their Removal by Vaginal Enucleation,

By DR. PAUL F. MUNDE, of New York, of which we append a few of the principle points. The favorite seat of fibroids is in the body of the uterus. In two hundred and five cases of fibroids selected for his paper, twenty-five were cervical fibroids or myoma of the cervix, when they occur here the child is with difficulty expelled. When their location is partly corporeal and partly cervical, the difficulties to be overcome are correspondingly great or less as their size may be. In twenty-eight cases of fibroids of the uterus at the end of the period of gestation where obstruction to the birth of the child occurred, four mothers and fifteen children lived. The author then gave his method of removing interstitial fibroids and then proceeded to give in detail the manner of enucleating fibroids at time of labor. The operation of cesarian section was also fully dwelt upon. But vaginal enucleation is the better plan to pursue, and the very best instruments for this purpose are, the serrated spoon, or spoon-saw, and the vulsellum forceps. The writer then gave an interesting written report of a case that occurred in his practice, wherein he removed a fibroid of the cervix that weighed three pounds, or fifteen hundred grams, which is probably the largest now on record, removed where pregnancy was present. The case was referred to him early last spring as one of elephantiasis of the os uteri, (whatever that may be, said Dr. Mundé), when he diagnosed the difficulty. On May 16, 1884, pains came on, and as he thought labor was about to advance, he grasped the uterus with a pair of vulsellum forceps, then made an incision three inches long, and with the saw spoon and its handle succeeded in enucleating the tumor from its capsule. The tumor was then shown and

inspected by the fellows. The amount of blood lost at the operation did not exceed a few ounces, her temperature was high. The cavity was carefully washed out. On the third day the temperature fell and did not rise again above that of normal degree. At the close of the operation the cavity was nine inches in depth, on the sixth day it measured four and a half inches, and at the end of the third week the cavity was nearly closed. The tumor measured eight inches in length, six inches in width and twenty inches in circumference. The author then succinctly recited eight other cases beside that of his own, which was by far the largest tumor of them all.

SCHROEDER was quoted as having reported a case of uterine fibroid, that he removed at the end of gestation, that measured six inches in length, which came nearer approaching the size of the writers of any that he had been able to find recorded in the literature upon the subject. It was now five o'clock, and the hour for adjournment.

DR. WM. TABOR JOHNSON moved, that discussion on the above paper be postponed until 10 A. M. of Wednesday.

DR. EDWARD W. JENKS, of Detroit, moved to amend, that the discussion of Dr. Munde's paper be postponed until after the President's address is heard, which is set for 10 A. M., on Wednesday.

The latter motion prevailed.

Morning Session of Second Day.

The Association was called to order at 10 o'clock.

DR. WM. H. BYFORD in the chair.

Secretary FOSTER read the following list of names of gentlemen who had been invited to become members by invitation and guests of the society:

Dr. W. H. Myers, Fort Wayne, Ind.
Dr. Liston H. Montgomery, Chicago.
Dr. John H. Rauch, Springfield, Ill.
Dr. T. A. Rodger, Montreal, Can.
Dr. J. K. Bartlett, Milwaukee, Wis.
Dr. Wm. Fox, Madison, Wis.

Upon motion they were so elected.

DR. BYFORD then announced that President Smith was too ill to read his address this morning, and for that reason he was unavoidably absent.

The first thing in order then was the discussion of Dr. Paul F. Munde's paper, which was deferred from the last afternoon session.

DR. BYFORD asked Dr. Munde to outline

the points in his paper to be discussed in the debate, which was complied with by his stating, that the discussion is to be confined to interference of parturition by fibroid tumors of the cervix uteri, sufficiently to interfere with delivery. Their treatment by enucleation in preference to that pursued by cesarean section and the mutilation of the child.

DR. E. W. JENKS, of Detroit, was much interested in the paper. These cases are not often seen. He had had one case where a small fibroid of the cervix interfered with the delivery of the child, as if it rivalled or retarded delivery, which it did to a considerable extent. He removed the fibroid partly by enucleation and partly by excision, it was the only case he had ever seen. He favored enucleation instead of cesarean section, although a believer of the latter in some cases.

DR. WILSON, of Baltimore, whose opinion was like that of his friend, Dr. Jenks, who stated that this condition is rarely met with. The speaker had never seen a case of fibroid of the neck of the uterus interfere with delivery of a child. He saw one case of fibroid of the body of the womb interfere, but as the points for discussion did not include this, he would not allude to it further. If, however, he should meet with such a case in his practice and was called upon to remedy the difficulty, he thought the course to pursue would be enucleation; this is not difficult if the tumor is accessible. If the tumor was located in the body of the womb it would be more difficult to get at. The speaker then alluded to eight cases of fibroid of the body of the womb, which, when removed, varied in weight from four to twenty ounces, but, as above stated, he never had encountered a case in all his experience where the tumor was situated in the cervix at the time of delivery.

DR. BYFORD, of Chicago, did not exactly agree with the author upon some of the points contained in his paper. He had seen some cases of fibroid of the neck of the uterus at full period of gestation, and whether they are sessile, pendulous, interstitial or otherwise, they can more easily be removed if we wait until labor is considerably advanced, when they will be pushed out and the child may survive. To enucleate them earlier we induce miscarriage and sacrifice the child. He had seen two cases where the tumors were pushed

out and then removed with much less difficulty than had their removal been attempted earlier, in one of the cases the weight of the tumor was eighteen ounces. Another case he saw a few weeks ago where the tumor was nearly as large as the one Dr. Mundé has exhibited here to-day. After labor had progressed for ten or twelve hours, the capsule was quite readily torn with his finger-nail and the tumor removed in that manner by enucleation. He felt sure he was right in the statement by saying wait until labor comes on before attempting their removal, other things being equal, for, by doing so, there was less hazard to the child and no more risk to the mother. After their removal apply dressings to prevent septicemia.

DR. DUNLAP, of Springfield, O., arose to state that he had no personal experience to relate on the subject, but opined that these cases were difficult to remove, as he conceived that cases occurred where, as Dr. Mundé's case was encapsulated, it is a difficult matter to peel them out of their capsule, for the capsule may absorb the surrounding muscular tissue. Then, if so, he could not see how a tumor could be enucleated or peeled out when the muscular tissue runs into it, or how it could be removed by the serrated spoon. If there was a small pedicle, a portion of the fibroid, or one-half or more might be cut out, and the speaker asked if such might not be the case. If the operation was so easy to perform or the capsule could be torn by the finger nails and then the tumor enucleated, it surely was not a very great operation, but suppose we could only tear as far as the capsule and then find the tumor had extended far into muscular structure? To remove only a portion of it would be followed by their continuing to grow or reproduce themselves. Suppose the tumor to be a subperitoneal one, extending to the neck of the uterus, not more than one-half of it could be cut away with the serrated spoon and removed per vaginam.

DR. ELY VANDE WARKER, of Syracuse, related his experience in one case that he had operated, where he performed Cesarean section with deplorable results. The patient was a young Jewish lady and was attended by his friend, Dr. Aberdeen. The speaker was called in consultation after the woman had been in labor thirty hours. Upon his arrival the forceps were

applied. The pelvic space was occupied by a solid mass, and the uterus was above the child. The growth sprang from the posterior cervical wall and was rotated forward. Several other physicians were called to the case. He wanted to make an incision and try to enucleate the tumor, but was overruled and Cæsarean section was made. The child was saved but the mother died in twelve hours from the result of shock. The post-mortem examination demonstrated that he was right in his judgment of the feasibility of the procedure of removing the tumor in the manner he first suggested.

DR. THAD. A. REAMY, of Cincinnati, had seen but a single case of the class referred to, and that was four years ago in consultation with Dr. G. S. Mitchell. The tumor was interstitial, occupied the posterior wall of the cervix external to the os internum. It confused the physician at first. When the external os was partially dilated he discovered that the tumor had no pedicle. He made an incision into the tumor with a bistoury and then enucleated it with his fingers. The mother and child both did well. Regarding the selection of the operation, whether of enucleation or Cæsarean section before labor, he would say, wait till labor is actually present, then enucleate. At least in the majority of cases we should defer the operation until the time of labor, and first, even then, if the tumor is too large, to dilate the os; wait until dilatation has occurred. Second, regarding the lymphatics. A woman's physiological state is the best at the very time of labor, and they are less liable to absorb putrescent substances at this time, contrary to the teachings and what has been said upon the subject. At the fourth month of gestation septicemia is more apt to be absorbed by the lymphatics if she is operated on and disturbed than at the end of her period. Therefore it is best to wait in these cases and not operate until labor has begun.

DR. MUNDE had but little to say in conclusion. He repeated the illustration and easy manner which most corporeal and cervical fibroids could be "shelled out" with the edge of the spoon-saw, its handle, and by traction. If this cannot be done, then he advised enucleation. We cannot decide every case. Regarding the rapidity of their growth, manipulation may be difficult. If so, then do not wait until labor

has set in, but operate ten days ahead of the time labor is expected. In the case he cited the woman was in labor on the morning of the operation. The case alluded to by Dr. Reamy, where Schrader operated, came nearly succumbing to an attack of pelvic peritonitis and internal hemorrhage. Relative to their frequency at the time of labor they are not very common. He saw one case with Dr. Hanks. He used the spoon-saw at one place of the tumor and then *shelled it out*. A blood vessel of some size was cut, but it was ligated. The tumor was hard and enucleated by means of the hand, traction and vulsellum forceps. If the tumor is subperitoneal they are difficult to remove, as Dr. Dunlap had remarked, only about one-half could be removed with the serrated spoon and with proper traction. If it could not be removed entire by enucleation, then resort to Cæsarean section.

It was again announced that President Smith was still too indisposed to read his address, and the eighth paper on the programme was proceeded with, viz.:

A Further Report upon Extra-Uterine Pregnancy—Embodying Six Cases. By DR. T. GAILLARD THOMAS, of New York.

Dr. Thomas was attentively heard. Before he began reading his paper he exhibited an instrument or harness, which was unique and novel, and explained how he came in possession of it. It was during last summer, in an obscure village on Long Island, with some French people, that a portion of a French estate was entrusted, consisting of thirty mediæval trunks filled with old and curious relics, one trunk contained a lot of dueling instruments; another was filled with a lot of manuscripts, old papers, etc.; others contained old dresses and character supplies. In the bottom of one of the trunks was found a curious harness or relic. Having his attention called to it some six weeks ago, and the person, seeing that he was much interested in its mechanism, presented it to Dr. Thomas. The *harness* appears to have belonged to a woman of some royal family, who, with her husband, at one time lived at the Hotel de Clunia, Paris, and consisted of joints of a steel band covered with red plush or velvet to encircle the waist, with a similar long covered piece of steel to protect the genitals of the wife during the absence of her lordly spouse. The latter piece was divided or separated so as

to surround the vulva, and then continued posteriorly with a circle for the anus, each of the ends being adjusted to the front and back portion of the part of the harness that encircled the waist. The fissure and circle in the harness to protect the rima vulvæ in front and the anus below had, on their borders, teeth of steel, like that of a saw. The harness was locked and had a seal of armorial bearings of an important household inlaid in wax, for the purpose, as the speaker supposed, of testing the virtue of the wife during the husband's absence. Dr. Thomas stated the authenticity of the story and the harness as it was told to him at the time he came in possession of it.

The essay consisted of a supplementary report to his paper of two years ago, in which he recited the history of twenty-one cases, to which he would add six cases. Several pages were devoted to the history of extra-uterine pregnancy. We have had the following synopsis prepared :

Ten or fifteen years ago the key-note was sounded to make the diagnosis early in these cases, which, of course, is a difficult thing to do. If tubal pregnancy occurs the tube usually gives way before the fourth month and the uterus may be empty or full. One author was quoted who stated that out of 60,000 cases of pregnancy treated in seven years five of them were extra-uterine in character. Bandl, who, for eighteen years, saw 18,000 cases annually, had met with but twenty-seven cases of extra-uterine pregnancy, and then when it was discovered he resorted at once to laparotomy.

Phantom tumor and ectopic gestation each received in detail numerous and somewhat varying symptoms and theories. These are trying and responsible cases for a family physician who may be in doubt or error in his diagnosis. To make an exploratory incision upon his patient may result in the woman's death. This is indeed very trying to a conscientious physician. There are two courses to pursue, however, in this class of cases. First, is a complete mastery of the known knowledge upon the subject, and, second, to recognize it and perform that which may be necessary for the relief of our patients. Especially does this apply during the earlier periods, although it is ordinarily impossible to diagnose these cases very early. Some striking experiments to ascertain whether pregnancy existed or not in unpregnated

rabbits have been performed by Leopold, in Leipsig, which the author then recited, whose ideas the reader endorsed from his own experience. These experiments were performed with the galvanic current. Twenty years ago Dr. Stephen Rogers, of New York, had a case of extra-uterine pregnancy, the history of, which the author then gave. In January, 1883, Lawson Tait, of Birmingham, Eng., reported five cases operated on, of which four recovered and one died. In the United States, Oct., 1883, Dr. Charles Brinton performed the operation for the removal of a fetus. Dr. Thomas then gave in detail the report of six cases, as especially embodying his paper. The history and symptoms of one or two of them he read the unabridged report of, from the pens of other able physicians whose cases they were, whom Dr. Thomas had met in consultation, and as the written reports were identical with his own knowledge from other cases he had seen, he gave their views unchanged.

The first case, with its details and symptoms as recited, was complicated with pelvic peritonitis and diagnosis were next to impossible. Four ounces of pus was drawn off by aspiration and twelve hours after the woman died. A post-mortem examination was made and the autopsic appearances described and explained. She was a nullipara.

The second case occurred in the practice of another physician. The following is in substance the history: Her menstruation at the first period was delayed nineteen days, when pain, soreness and tenderness of the abdomen came on. The uterus was retroverted. Absolute rest was enjoined and she improved.

December 26, at 10 a.m., she was seized with the other attending symptoms aggravated. Her temperature was subnormal and the uterus was still retroverted.

December 29. Some flow presented which lasted four days.

January 2. Her temperature rose to $107\frac{1}{3}^{\circ}$ F. and she had a foetid discharge. With suitable treatment she improved and was apparently all right in a few days. The uterus was not much enlarged.

January 9. Uterus larger than it was one week ago, and forward there was no tumor perceptible outside of the uterus. There was, however, greater fulness on the right side of it than on the left side. Intersti-

tial extra-uterine pregnancy was suspected. At midnight her temperature was subnormal.

On the day following symptoms of pelvic peritonitis set in. At 9 p.m. her temperature was 101° F., pulse 120.

January 15. Dr. Thomas saw the lady and concurred in the diagnosis.

In a few days again there was marked improvement and the electric current was resorted to. The result was satisfactory. Early in April following she made a journey to Atlantic City, and in six weeks she had entirely recovered her health.

Case third, in eighteen months, had had two miscarriages. Then she began to complain of fulness and pain in her left iliac region, later she was troubled with nausea and vomiting and paroxysms of pain. Had to use hypodermics of anodynes to control these. The temperature was lowered. A tumor of the size of a man's fist was discovered to the left of the uterus. Diagnosis, extra-uterine pregnancy.

Electricity was used in the form of a strong electro-galvanic current by a Kidder battery for seven minutes, as follows: Sixteen cells for five minutes, ten cells for one minute, five cells for one minute. No result followed.

April 21. Patient etherized. Twenty cells were used interrupted for a four minute interval.

April 23. Thirty cells were used for three minutes.

April 28. Forty cells were used interrupted, sixty to the minute, which resulted satisfactorily.

May 18. Menstruation appeared for the first time in five months.

September 15. Patient has gained flesh, the tumor is less tense, less firm, and reduced in size. Fetus encapsulated.

Fourth case first consulted him in 1882. The patient was a cultured Irish lady who had been married several years but had not become pregnant. In the latter part of 1883 she consulted him again, but he was not able to make a positive diagnosis. Jan. 1, 1884 she presented herself to Dr. John Lambert of Salem, N. Y., with symptoms that led him to think she was at the fourth or fifth month of gestation, and that it was of ectopic character. Dr. Thomas saw her Jan. 25, and agreed in the diagnosis. At this time 17 cells interrupted 60 times a minute were used for five minutes.

Jan. 26, twenty cells interrupted sixty times a minute were used for three minutes.

Jan. 28, fourteen cells, uninterrupted, were used for a minute.

Jan 29, twenty cells, uninterrupted, were used for a minute.

She was a willful and rather incorrigible patient. In ten days she left New York for Salem, where she indulged in violent horse-back exercise. Yet in a month she recovered. In six months she was feeling very well.

Case fifth was a woman 47 years old, with extra-uterine pregnancy. Succumbed to electric shock.

Case sixth was first seen in Feb., 1884. She was suffering from abdominal pains and hemorrhage. She had a child four years before. She had now arrived at full period of gestation, the os did not dilate, and all physical and rational signs convinced him that it was a case of extra-uterine pregnancy. He waited to see if the placenta would shrivel. He allowed this to go on for some time and then operated for abortion. The liquor amnii weighed three pounds, the placenta weighed four pounds. Then he performed laparotomy, and took away the fetus which weighed nine pounds. He closed the greater part of the opening by the cobble's stitch suture. A pouch was left, so that it was remarked at the time that he marsupialized the woman. The pouch was thoroughly cleaned out. Her first symptoms were those of violent acute septicaemia. In twenty-four hours after the operation her temperature ran up to 204° F., the pulse was 150, and remained so for several days. Yet he stated at the time that it was not septicaemia, but acute peritonitis. The sac was syringed every two hours. It was a severe case, and almost ended fatally. However, in six weeks she was free from pain, and nearly as well as ever.

To mention some points omitted above—The fourth case was a negress of seventeen months gestation; the second had been abnormally pregnant one year, the placenta coming away two weeks after he operated. In the third case the extra-uterine pregnancy was advanced eleven months and the placenta was expelled. The author does not think it judicious to apply electricity to these cases beyond the fifth month.

DISCUSSION.

DR. MUNDE of New York recited the history of a case he saw last February. She had signs of pregnancy. She had a child eight

years old, and had a miscarriage. She had intercourse with her husband two months previously, and when speaker was called to see her, shreds were being discharged and she was losing blood irregularly. The uterus and fundus were not enlarged; the uterus was three inches deep. At first he did not think of extra-uterine pregnancy as the cause of her trouble, but later he concluded that her case was one of tubal pregnancy. Dr. Emmett confirmed the diagnosis. He recommended electricity. He applied the galvano-faradic current, one electrode of ten cells, gradually increased up to twenty-four, interrupted twelve times a minute, for ten minutes. One pole was in the rectum and the other over the abdomen, causing considerable pain, which was controlled by suppositories of morphine. Next morning she was in a state of collapse, pulseless at both wrists, but could talk and was perfectly conscious. Rupture of the sac had induced internal hemorrhage, causing the speaker some anxiety. Hypodermics of whisky and ammonia were given, and laparotomy deferred. Dr. Brinton advised immediate operation; but Dr. Munde waited, the fetus was killed, and the woman recovered. He used the current six days in succession, on the last occasion for fifteen minutes. In three months the tumor was two thirds its former size, and she was perfectly well. He was an advocate of the electric current. He had seen it succeed in twenty cases, all that he had known.

DR. MERCER inquired if there were any special indications for the use of either current before the other.

DR. THOMAS knew of none.

DR. HOWARD, of Baltimore, asked Dr. Thomas if the uterus was enlarged in these cases.

DR. THOMAS replied that after a normal birth involution should be complete in two months, and the same principle obtains in extra-uterine pregnancy.

DR. PALMER asked Dr. Thomas what was the limit of time to the use of electricity in these cases.

DR. THOMAS replied that possibly it might be deferred five months, but we should kill the fetus as soon as we discover an extra-uterine pregnancy. A small fetus might be absorbed.

DR. WILSON had seen a case of twin pregnancy, one in the womb, and the other in the abdominal cavity. The former was born dead at eight months, the other was

delivered at full term by Cæsarean section and lived three years. Would Dr. Thomas have let the child remain and the placenta shrivel?

DR. THOMAS said that if the child were alive at the ninth month it was the mother's duty to submit to the operation, but if the child were dead, it is better to wait.

DR. REAMY said that in some of these cases perhaps a diagnosis may not have been made, and at the time of labor when pains came on the child died, probably in a few hours. This may apply to normal cases, or to cases of extra-uterine pregnancy.

DR. BROWNE, of Baltimore, cited a case to show that the uterus does not always regain its normal size. He also gave the history of a case of tubo-interstitial pregnancy, in which the fetus had become encapsuled or removed, and the woman became pregnant again. This is the only case of the kind on record, and it has been published already.

After a report of several cases by Dr. N. Brown, of Boston, Dr. Reamy moved a vote of thanks to Dr. Thomas for his able paper. Of course the motion was carried unanimously.

The ninth paper, by DR. R. B. MAURY, of Memphis, was then read, entitled

A case of Tubal Pregnancy, with Rupture of the Sac.

Last December he saw Mrs. G., who was suffering from gastric and mammary symptoms of pregnancy. December 27 menstruation came on. December 30 she was attacked with agonizing pains, and was supposed by her friends to be dying. An hour afterwards her pulse was 150 and temperature below normal, and she showed symptoms of intra-peritoneal hematocoele. The uterus was large, and rose half way to the umbilicus. Tubal pregnancy and rupture of the sac was diagnosed. In two hours the pulse was 148 and the temperature had risen to 102.5°. Laudanum and stimulants were freely given her, and on the fourth day her pulse was 120, temperature 101.5, bowels loose; on the sixth day she had a chill, the temperature rose to 103°, pulse 150. On the seventh day some pneumonia developed, and on the fifteenth day pulse and temperature were normal.

Jan. 20, uterus in natural position.

February 15 tumor was felt behind uterus. Uterus much smaller than on Dec. 30.

July 16, uterus moveable. She had a hemorrhagic discharge which has now ceased. There was no passage of deciduous membrane. Laparotomy was performed after the shock passed away.

The literature of the subject was then reviewed by the essayist. Thomas' article published in 1880 was quoted.

There being no further discussion on the subject, the Society adjourned to 3 p. m.

PHILADELPHIA PATHOLOGICAL SOCIETY.

Thursday evening, Sept. 25, 1884.

The President, JAMES TYSON, M.D., in the chair.

DR. GUY HINSDALE exhibited a *phantom brain*.

The model is constructed in colossal proportions, and is intended to show the course of the fibres in the human brain, and their relation to the several nuclei and the spinal cord. This preparation has recently been purchased for the Mutter museum of the College of Physicians, and was constructed by Buechi of Berne, Switzerland, under the supervision of Prof. Aeby.

The height is 125 cm., the width 70 cm. The cortex is dotted over with numerous corks 2 cm. long, which are distributed in systematic order. The basal nuclei, of much larger size, are seen in their appropriate places. The spinal cord, made up of ganglia and columns of wires of different colors, is represented throughout a portion of the cervical region. These columns of the cord, of different colors to distinguish their function, lead to their ganglia of corresponding color, or to the areas in the cortex which are marked by similarly colored corks.

Taking first the anterior and lateral columns of the cord painted red, we can trace these motor fibres to the anterior and lower portion of the medulla, where they decussate, through the pons to the internal capsule, where, between the caudate nucleus of the corpus striatum and the optic thalamus, they radiate to the cortex. They are seen to come chiefly from the convolutions about the fissure of Rolando. Where red balls are seen, from that point a red motor fibre descends to the anterior or lateral columns. The column of Turck, or direct pyramidal tract is in relation with the posterior part of the lateral column of the opposite side. As regards the exact localization of

the motor and sensory tracts of the spinal cord, there is still some discrepancy of opinion. Prof. Ferrier states that the antero-lateral columns are usually regarded as the chief motor paths, but quotes the recent and careful experiments of Ludwig and Woroschiloff, who place the motor paths in the lateral columns only. The anterior columns are regarded more as commissural connections between the motor nerves and adjacent segments, and not direct paths of motor impulses proceeding from the brain.

Tracing the fibres of the posterior columns, colored blue, we find them represented as wholly decussating in the medulla, forming the posterior third of the internal capsule, and passing to the corpora quadrigemina and optic thalami, the great centers of sensation.

The external portion of the lateral column, colored green, is seen to lead to the cerebellum, decussating near its superior surface. The yellow fibres of the model place the basal nuclei in communication with the cortex; the white fibres, purely commissural, constitute the corpus callosum. As represented in the model, the columns of the cord correspond precisely with the arrangement given by Flechsig and endorsed by Charcot and Hammond. Ludwig and Woroschiloff argue that "a vicarious interchange of function potentially exists between different parts of the cord." Ferrier admits that, in determining the course of the cerebral fibres, anatomy reveals very little, and that physiological experiment is practically the only means at our command. Many more observations and experiments must be made before it can be said that the sensory and motor paths have been exactly defined.

A case of infantile mollities ossium, presented by DR. C. M. WILSON for Mr. Clinton Dent, of St. George's Hospital, London.

This specimen was sent to me by Mr. Dent, the well known editor of the English edition of Billroth's Notes on Clinical Surgery. The following history was furnished by Mr. Dent. "This specimen shows the inner vertical half of the right femur of a child aged 16 months. There is a pseudo-fracture of the bone. The medullary canal is filled up, and a considerable deposit of enveloping callus maintains the fragments in apposition. The entire bone is unnaturally soft, and in the recent state showed this peculiarity still more strongly. The

bone was removed after death from the body of a feeble, badly nourished child. No evidence of syphilis could be gotten from the parents, and the child showed no symptoms of congenital syphilis. Some of the ordinary symptoms of rickets were observable, e. g. bending of the ribs, general tenderness, enlargement of the wrists, etc. No symptoms of scurvy were present. It was evident that there was much more than rickets in the condition. When the child was first admitted to the hospital there were pseudo-fractures of the right humerus and left tibia, besides the fracture of the right femur. The humerus, which was bent at a right angle was forcibly straightened. It bent like a bar of soft metal, and remained in its new position. It was, however, put in a light pasteboard splint. Subsequently after the removal of the splint, the bone again gradually bent and was again forcibly straightened. While in the hospital under observation, the femur became affected in the usual place, i. e., just below the trochanters. Some swelling and tenderness was noticed, and then the bones became bent, although the child was kept constantly in bed. Ultimately, in about ten days, the pseudo-fractures became complete. Improvement of the general health, as shown by rapid increase in weight, resulted from the treatment of rest, good diet and cod liver oil.

The child finally died from an attack of whooping cough after having been under observation a few weeks."

This is a very rare form of bone disease, especially in the young. It is seen occasionally in England—never with us. The pathological changes seem to be of a retrograde character. Sometimes lipomatosis takes place. Sometimes there is a metamorphosis, first to cartilage and then to embryonic tissue. This specimen shows, in different portions, both changes. The disease is attended with marked fatality. In this specimen the cortical substance is attenuated and the medullary cavity is enormously enlarged. The bone seems deficient in lime salts. Some authorities believe that the lactic acids found in the chemical analysis of such bones is accountable for this. This fact is mentioned in order to elicit discussion. Other observers have found enormous quantities of oxalate of lime in the urine of patients with malacosteon bones. One curious fact is the effort which nature makes to repair the

fractures, as shown in this specimen. This callus seems deficient in inorganic matter and eventually becomes reabsorbed. Syphilis, scrofula and scorbutus have all been assigned as causes of the affection. Most authorities deny the existence of the disease in children, assign it to middle life and speak of it as being lighted up or aggravated in women by pregnancy.

Translations.

APHASIA AND REFLEX TROUBLES OF CHILDHOOD DUE TO INDIGESTION. — The *Revue des Sciences Médicales* announces some recent observations of importance on this subject, of which the *Berlin Klin. Wochens.* gives the following resume: A little girl of three years suddenly lost her voice, so as to be able to utter no sound except an "Oh!" when pinched. In two hours, at the latest, the voice was almost entirely restored, after vomiting the contents of the stomach, which consisted almost entirely of cherries.

A little boy, after an indigestible dinner, is seized during the night with a colic and an offensive diarrhoea. Early in the morning sopor ensues, with violent fever and aphasia. In the course of the afternoon consciousness was gradually restored, and by the next day there remained nothing of the trouble.

In another case, a girl of nine years awoke, after a good night, without experiencing any discomfort, but about an hour later she complained of a sense of warmth in the head, and was subjected to a succession of flushes and palor. Then, unexpectedly, she completely lost her voice, and she started to walk aimlessly about as though searching for something. A convulsion occurred. In about a half hour the undigested meal of the previous evening was ejected; the child immediately recovered her voice, and recollected nothing that had transpired, except the state of aphasia.

Fränkel, again, has observed a hemiplegia due to indigestion. A little girl of four years, in the midst of a repast, was seized with vomiting, together with a complete loss of consciousness. The physician who was called, in spite of the affirmation of the mother that the child had taken no drink except a very small quantity of wine, attributed the illness to the action of alcohol. In about a half hour consciousness returned

and a complete paralysis of motion and sensation was discovered in both left extremities. Sensation was gradually regained, and afterwards motion. The day following the child's health was perfect. — *Jour. de Méd. et de Chir. Prat.* Sept., 1884. J. M. F.

A NEW SIGN IN THE DIAGNOSIS OF CANCER OF THE STOMACH.—M. Dujardin-Beaumetz, in discussing the difficulties of diagnosis of cancer of the stomach, before the Société Médicale des Hopitaux, described a new method of diagnosis pointed out by Rommelaere, of Brussels. This observer maintains that there is an impoverishment of nutrition associated with malignant tumors that is not observed in connection with the benign. For the purpose of estimating this alteration he had resorted to an examination of the total quantity of urine voided in twenty-four hours. He thus found, in a series of patients suffering with carcinoma of the stomach, that the average amount of urea was but nine or ten grammes. In patients suffering from dyspepsia or simple ulcer, on the other hand, he found it in quantities varying from 17 to 36 grammes. Consequently, when repeated examinations of the urine shows the quantity of urea to be less than ten grammes he was led to suspect cancer. The investigations of M. Beaumetz confirm these researches, except in a case of hydatid cyst of the liver, in which the quantity of urea was reduced to four grammes. The average named by Rommelaere may, however, prove a valuable indication in doubtful cases. — *Jour. de Méd. et de Chir. Prat.*, Sept., 1884. J. M. F.

INGROWING NAIL.—In a note to the *Union Médicale*, June 22, M. Monod states that during the last twenty years he has treated ingrowing nail by a very simple and effectual method, which does not involve the removal of the nail. He makes a free application of nitrate of silver at the commencement of the affection, without isolating the nail. If the cauterization is carried deeply into the diseased furrow, the patient has usually, even by the next day, derived considerable relief, and is able, even thus early, to walk in moderation with an easy shoe. Extirpation of the nail should be reserved for quite exceptional cases. — *Med. and Surg. Reporter*.

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Cincinnati, October 11, 1884.

The Week.

ERRATA.—On page 381, of the last number, remarks of Dr. Stanton, read "severe shock" instead of sunstroke; also 3 ss instead of 3 is.

CINCINNATI MEDICAL SOCIETY. — Dr. Marsh will read a paper on "Cystic Degeneration of the Chorion," at the next meeting, October 13, 1884. Dr. Dandridge will also present two cases of fracture of the skull.

LADY: "Here, my poor man, is a ticket for a dinner at a soup-kitchen; and you can eat as much there as will suffice for tomorrow and the day after." Mendicant: "Thank'ee kindly mum, but I'd rather like first to eat enough for yesterday and the day afore, if it would make no difference to you to write that down on the ticket."—*Ex.*

PSEUDO-JOURNALISM. — The curse of medical journalism is the "Cheap John" advertising sheets of manufacturing chemists, with which every State, and Texas particularly is flooded. Under the guise of a medical journal they are sent to every physician whose address can be obtained by their drummers, who are sent out with samples of their pharmaceuticals which are lavishly given the doctors, and for the purpose of securing the addresses. They nom-

inally charge one dollar a year for their journals, but never insist on payment, being only too glad to have their sheet accepted. They do render bills occasionally, but do not demand payment; that is only to shut the eye, and would be adding insult to injury. A discerning and discriminating physician would as soon be gulled into paying for a Hostetter's almanac or a St. Jacob's Oil domestic recipe book as for one of these "journals."

Now these specious and unscrupulous sheets do furnish some good reading, picked out of journals, enough to satisfy the appetite of the average doctor (for it is really a lamentable fact that the majority of physicians quit reading when they get their diplomas), but the mass of the contents is made up of cases cured by the particular pharmaceutical compounds which this particular house manufactures, and of certificates from college professors as to the immaculate powers of the product. *Tempora mutantur*, etc. It used to be the clergy, now it is the medical profession. It used to read, "an aged minister, whose sands of life are nearly run out;" now it is an antiquated professor whose practice is about "played out." The enterprising manufacturing chemist can not concoct a compound too villainous, nor give it a name too absurd, nor claim for it properties too preposterous for the antiquated professor to endorse, or for the average practitioner to accept and prescribe. It is so easy to prescribe a ready made "pharmaceutical compound;" it does away with the necessity of thinking. "It is good for" this disease, Prof. Buncome says so, and this is a case of it. No necessity of looking into this case's pathological condition, nor to inquire into the etiology; no need to give the hygiene of the household any attention, in case the disease might be traceable to some hygienic neglect, and other members of the family be in danger; oh, no! Here is a "bully" pharmaceutical preparation that is "good for" cases of this kind; I know it, for Prof. Shuteye says so. Never mind about the "lesions" or the "indications," the "Compound hepatized hog-liver oil, pork and beans *cum* salt and pepper" will cure him. A whole bill of fare (medicinal) at one dose.

There are "preparations" on the market to which the proprietors wish to "call the attention of the profession," fully as absurd as that just supposed.

"The attention of the profession!" Yes, that is the way they make it; they do not go directly to the people, they reach them through "the profession," and just as soon as "the profession" gets the families to using the preparations both the proprietors and the families can and do dispense with "the profession." Is it possible that practitioners of medicine are so blind as not to see that they are being made cat's-paws of by these designing manufacturing chemists, who are usurping them in every household where their "preparations" are, through their agency introduced?

These pseudo-medical journals are doing incalculable harm to the legitimate practice, not only in the way just indicated but, in many others. They are prostituting journalism to their own base purposes, and practicing physicians are aiding them in the work. These manufacturing-chemico-journalists are getting the pharmacopœ all mixed up, and giving a physician a very confused idea of therapeutics; in fact, the tendency is to do away with a knowledge of therapeutics altogether. The manufacturing chemist thinks for you, he makes your diagnosis for you, and furnishes an excellent prescription ready made, to meet all the indications at once, and endorsed by a professor. Why *should* you think?

We in Texas are endeavoring to get a law passed to regulate the practice. We will never regulate anything as long as practicing physicians will read the "Tympanitic Gas Bag" and that class of literature.

We ask the average reader, would you consult with an irregular? would you go to one for advice and counsel? No, but you will and do read bastard pseudo-medical literature. These publications are to legitimate journalism what quacks are to the medical profession. Still our readers—some of them *whose names we know*—take them to their hearts, and not only read them, but accept them as orthodox, and are made use of to introduce "Cool & Shady's Elixir Goose grease, Catnip and Cumfrey compound (*phosphated*) with Iodo-horse-mint and Honey, THE GREAT VITALIZER," into respectable families. When the family use a bottle and are caught by the sound of the name (that's their racket, it sounds learned, and has just enough domesticity about it to catch that curse of the profession—old grannies), the doctor's services can be and generally are dispensed

with in that family, and in all others of their acquaintance, for a woman prevailed on to do a silly thing, and by her doctor, wants to justify herself and spread her doctor's fame, and she does so (over the left) by establishing a demand for this high-sounding absurdity, and the doctor—what is *he* profited if he gains a whole basketful of samples and loses his own paying practice?—*Texas Courier-Record of Medicine.*

AN ADDRESS ON CHOLERA AND ITS BACILLUS.

Delivered before the Imperial Health Board at Berlin, by

ROBERT KOCH, M.D. (¹)

[Continued from our last issue, p. 387.]

I think that we can in this way most easily explain the relations of subsoil water to the spread of cholera. Everywhere where water is stagnant on the surface or in the ground, in marshes, in harbours which have no outflow, in places where the ground is trough shaped, in very slowly running streams, and such like, the conditions described can develop. There, in the neighborhood of animal and vegetable refuse, concentrated nutritive solutions will be most easily formed, and will give the micro-organisms opportunity for forming colonies and multiplying. On the other hand, wherever the water at the surface as well as at the bottom is in a state of rapid motion, and subject to continuous change, these conditions are less easy, or do not occur at all; for the continuous flow of the water prevents the formation of a local concentration of nutritive substances in the liquid sufficient for pathogenic bacteria. The connection between the falling of subsoil water and the increase of several infectious diseases, I would explain as follows; that, when the subsoil water falls, the current that takes place in the subsoil water is much less significant. Besides, the quantities on the surface are much diminished, so that those concentrations, which I assumed to be necessary for the growth of the bacteria, must much sooner take place.

If we assume that a special specific organism is the cause of cholera, we cannot think of an autochthonous origin of the disease, emanating from any particular locality. Such a specific organism, even if it be only a comma-bacillus, follows the laws of

vegetation, just as the most highly developed plant. It must always propagate itself from something of the same nature, and cannot spring up at haphazard from other things, or from nothing. But, as comma-bacilli do not belong to micro-organisms that are distributed everywhere, we are forced to trace back the disease that depends upon them to special localities from which these specific micro-organisms are brought to us. We cannot, therefore, imagine that, because the delta of the Nile resembles the delta of the Ganges in some points, cholera could spontaneously spring up there by way of exception, as was seriously maintained last year. Just as little reason have we for supposing that cholera should spring up here in Europe, without the comma-bacillus having previously been introduced. An attempt has already been made to represent a cholera epidemic that broke out in Europe, which had apparently originated in Poland in an isolated manner, as autochthonous, but it was afterwards seen that it did not do to allow this kind of origin to pass as tenable. For the cholera had been prevailing in various places in Russia in the form of epidemics that were not noticed, and was introduced into Poland by the troops. I have recently experienced something similar. Ten years ago, cholera broke out suddenly in the town of Hama, in Syria, and nobody knew how it came there. It is still maintained by many people that it broke out autochthonously. I was asked, a short time ago, by medical men in France, for my opinion on the subject, and could only reply, as there is nothing certain written on the origin of the epidemic, that the mode of introducing the plague in this case had not yet been explained; but I expressed my conviction that the origin of cholera in Syria must also be attributed to India, at the same time pointing out how the epidemics in Syria and Egypt, apparently of autochthonous origin, keep to the road of traffic between India and Europe or its immediate neighborhood, but never originate in places which have no relations with India. Very soon afterwards, I was able accidentally to obtain a satisfactory answer concerning the origin of the epidemic in Syria. Professor Lortet, who was himself at Hama during this epidemic, and had inquired into its place of origin, informed me that the cholera had been brought to Hama from Djedah by Turkish soldiers,

1. Translated from the *Deutsche Medizinische Wochenschrift* for the *British Medical Journal*.

So far, we know of no cholera-epidemics that have broken out spontaneously outside India; hence in this point also, experience agrees with the presumption that cholera is caused by a specific organism, having its habitat in India.

Now the conditions in regard to cholera in India are of a very peculiar nature. I do not think that the whole of India is the native country of the comma-bacillus. It was formerly maintained that cholera was indigenous in Ceylon, Madras and Bombay, and that it was then spread over nearly the whole of India; but, on the other hand, this has been very rightly disputed. Only about the province of Bengal there is no difference of opinion. All authors are unanimous in holding that the Delta of the Ganges is the real home of the cholera. I also have become convinced that it is in reality so, and that other cholera habitats do not exist in India. For the only region in India where the cholera continuously prevails, year by year, in an uniform manner, is the Delta of the Ganges; in all other places it fluctuates considerably, or often dies out entirely for longer or shorter periods. At individual places, for example, Bombay, it also never entirely disappears, but it is extremely probable that, by the extreme active traffic with the rest of India, it is continually introduced anew.

On the map of the province of Bengal you will see the Delta of the Ganges, which is bordered on the west by the river Hooghly, an arm of the Ganges, and on the east by the Brahmaputra.

The cholera prevails continuously in the whole of this region, and on the banks of the Ganges as far up as Benares. On inspecting the map more closely, it must strike an observer that the upper part of the Delta is not thickly set with villages, whilst the base of the triangle seems entirely uninhabited. This uninhabited district, called Sundarabunds, comprises an area of 7,500 English square miles, and is separated from the thickly populated northern portion of the Delta by an extremely sharp line. Here the large rivers, Ganges and Brahmaputra, break up into a network of streams in which, at the tides, the sea-water, mixing with the river-water, flows backwards and forwards, completely flooding wide tracts of the Sundarabunds at high tide.

A luxuriant vegetation and an abundant variety of animal life have developed in

this uninhabited district, a district which is not only unapproachable for man, owing to the inundations and numerous tigers to be found here, but is chiefly avoided owing to the pernicious fevers which attack anybody who stops there for only a very short time. One can easily imagine what quantities of vegetable and animal matter are exposed to putrefaction in the boggy district of the Sundarabunds, and that an opportunity, scarcely to be found in any other place in the world, is offered here for the development of the micro-organisms. In this respect the boundary between the inhabited and uninhabited parts of the Delta is especially favorable, where the refuse from an exceptionally thickly populated country is floated down the small streams and mixes with the brackish water of the Sundarabunds that flows backwards and forwards and is already saturated with putrefied matter. Under peculiar circumstances a thoroughly special fauna and flora of micro-organisms must develop here, to which, in all probability the comma bacillus belongs. For everything points to the supposition that cholera derives its origin from this frontier territory. All the greater epidemics commence with an increase of cholera in the south of Bengal. Jessore, from which place the first news of the epidemic of 1817 came, lies on the borders of the Sundarabunds, and Calcutta, which is now the constant habitat of cholera, is connected with the neighboring Sundarabunds by a boggy and scantily inhabited tract of land.

But further, the comma bacillus finds in the districts adjoining its supposed habitat the most favorable conditions that can be imagined for obtaining a footing and transferring itself from one man to another. For lower Bengal is a perfectly flat country, only very slightly raised above the level of the sea, and during the tropical rains almost the whole extent of it is under water. Hence anybody who settles there must, in order to protect himself from these annual inundations, build his hut on raised ground. This kind of building is seen in all the villages of the Delta, even in Calcutta itself, especially in the immediate neighborhood and in the suburbs of Calcutta, which more or less bear the character of villages. Every house or group of houses stands on a flat rising ground, which has been made by taking the earth from a spot near which the hut is built, in order to raise the ground

on which the house stands. This excavation becomes filled with water, and forms a so-called tank.

Every hut or group of huts must, therefore have a tank, more or less large. The number of these tanks is accordingly very great. The town of Calcutta alone had, till a short time ago, about eight hundred tanks, though many of them have been filled up for sanitary reasons. In the suburbs of Calcutta there are, besides, over a thousand tanks still existing. I have already mentioned the part the tanks play in the Indian household, and how adapted they are for spreading the cholera. It is perfectly clear that an improvement in the supply of water in those districts would exercise a decided influence on the conditions of cholera. In reality this has been shown in Calcutta. This town, situated on the river Hooghly, has about 400,000 inhabitants, and almost as many people live in the suburbs. Up to the year 1870 Calcutta, i.e., the inner town, had annually from 3,000 to 5,000 deaths from cholera, and the suburbs a corresponding number. From 1865 drainage was begun, first in that part of the town inhabited by Europeans, where the houses were farther apart from each other. Later on the rest of the town was gradually provided with main pipes, but up to 1874 there were not many houses in that part of the town inhabited by the natives that were really connected with the main pipes. The net of drains was only completed in a few districts of the town. Since then the work has been continued without interruption, and has since made great progress.

I must use this opportunity for mentioning a peculiarity of Calcutta. In the interior of the town, among massive houses and villas looking like palaces, groups of huts crowded together and resembling villages are to be found, exclusively inhabited by natives. These villages in the interior of the town are called bustees. The huts of a bustee possess no drains, sewerage, or anything of the kind. All the dirt is collected between the houses, and owing to the narrow mode of building, can only be removed in a very incomplete manner, and finally, reaches the tanks directly or is brought thither by the rains, so that the tanks become the natural place of collection for all liquid filth. There can be no question of connecting such huts with the drainage.

The construction of water works for Calcutta was begun at the same time as the drainage. The water is taken from the Hooghly river several miles above Calcutta, is well filtered and then supplied to the town. The water works were opened in 1870.

From 1865 to 1870 the effect of the drainage that was being more and more extended, was not visible on the cholera mortality of Calcutta, but since the opening of the waterworks the cholera diminished, and since then has been, on an average, one-third less than it used to be. The drainage, which has been considerably improved since 1870, has not aided the diminution of cholera that took place after the introduction of good drinking water. Hence the favorable effects in this case can only be ascribed to the water works. If, notwithstanding, cholera occurs comparatively frequently in Calcutta, the fact can be explained in this way—that the population do not take their water from the waterworks pipes, but according to their old custom, from the Hooghly or from the numerous tanks.

In the suburbs, which are in immediate connection with the town, and have a most animated traffic with it, but have no share in the supply of water from the waterworks, the rate of mortality from cholera has remained at its old height.

The influence of the water supply has been more plainly shown at Fort William, which is situated on the Hooghly, almost in the middle of the town. The fort itself is not drained, and owing to the distance from the nearest town drainage-pipes, can not be influenced by the town drainage. The condition of the subsoil water must be the same as when the fort was built. Formerly the garrison suffered very severely from cholera every year, but some years ago the attention of the officers was directed to the drinking water, it was kept as much as possible free from pollution, and since then the cholera has perceptibly fallen off. Thus the fort received a reliable water supply at the same time the town did, and since then cholera has disappeared from the fort. This case can serve as a normal experiment in which all the conditions have remained the same except the drinking water. If cholera does not invade the fort any more, the fact can only be attributed to the change of water.

There are also similar, if not so decisive

examples of the influence of drinking water on cholera in other Indian towns. In Madras the cholera has fallen off significantly since the introduction of waterworks. The same is true of Bombay. The condition of Pondicherry in this respect is very interesting. Cholera was formerly very prevalent in this town; some years ago artesian wells were introduced there, having a depth of 300 to 400 feet, and from this time cholera entirely disappeared, but last spring it was suddenly reported that the immunity of Pondicherry, which had been accepted as certain, had been shown to be untenable, as cholera had again broken out there. In consequence of this I applied to Dr. Furnell of Madras, who has specially occupied himself with the relations of cholera in Pondicherry, and has always traced it, and received from him the information that a number of cases of cholera had indeed occurred in Pondicherry, but these exclusively in those portions of the town not yet supplied with artesian wells.

If I have cited to you here some examples in favor of a good provision of drinking water, I need not, after the details I have already given, assure you that I am not a supporter of the exclusive drinking-water theory. I should like to avoid touching every point of view which is one of principles, but I think the ways that cholera can be spread in a place are extremely diverse, and that as every place has its own peculiar conditions, which must be thoroughly searched out, the measures which are of use for protecting that particular place from pestilence must correspond to these conditions.

In India, also, the spread of cholera depends upon the intercourse of human beings, and is chiefly caused by the pilgrimages, which have developed in quite an unusual manner in India. We can scarcely form an idea how widely diffused these pilgrimages are in India. In order to give you an example, I will only cite the two chief places of pilgrimage, Hurdwan and Puri. These are places to which hundreds of thousands of people, sometimes more than a million, flock annually from all parts of India. The pilgrims remain there for several weeks; they are penned together in a confined space, and live in a most miserable manner. Tanks are to be found everywhere in these places also, in which thousands of people bathe; they

also drink the water from these tanks. It is by no means astonishing if, under these conditions, the disease when it does break out amongst the flocks of pilgrims, is speedily scattered over the whole of India, and reaches every place.

Originally the cholera took the longer road across the frontiers of India, through northern India, to the centre of Asia, and thence to Persia, and then further on to the south of Europe. All this is changed since commercial traffic no longer takes the caravan road through Persia, but proceeds over the ocean, through the Red Sea and the Suez Canal. I scarcely think that there is any more fear of the cholera being introduced by land through Asia. It is not exactly impossible that it should again take this road, but it is not probable. On the other hand, the other way, the sea-road from India to Europe through the Red Sea, and especially from the chief harbor, Bombay, will be more dangerous every year, in my opinion. One can now travel from Bombay, which is seldom free from cholera, to Egypt in eleven days, to Italy in sixteen days; and, in eighteen, or, at most, twenty days, one can be in the south of France. Those are spaces of time which are so extremely short compared to those required formerly, that the danger of direct importation of cholera from India to Europe will become greater and greater. As the course of cholera on board ship is of especial interest for these conditions, I beg to add a remark on this point.

It has always struck me that real cholera-epidemics only take place in ships which have a large number of people on board, whereas, in ships with only a small crew, as in all merchant vessels, even when cases of cholera occur in the first days of the passage, epidemics never develop which last for weeks. Because this matter is of the greatest importance, not only for the etiology of cholera, but also for marine traffic, I have made as many inquiries on the subject, and have found this observation perfectly confirmed.

When, therefore, we have to deal with questions that refer to cholera in ships, we must direct our attention to ships used for the conveyance of masses of men, such as transport ships, pilgrim, coolie, and emigrant ships. Cholera does not occur so seldom on these ships, when they start from cholera infected ports, as is often supposed. Sometimes one finds an effort made to rep-

resent ship traffic as quite without danger in regard to the introduction of cholera, it being calculated that, out of a given number of vessels free from cholera, only one is found on which cholera has broken out. To this calculation it must be opposed that, although amongst a thousand vessels only one has cholera on board, this one ship can, of course, cause as much mischief as if the whole thousand had been infected with cholera. But if we confine ourselves to calculate the relation between those free from, and those infected with, cholera, amongst transport ships conveying large masses of individuals, then the result is much less favorable than is generally supposed.

In the Reports of the Sanitary Commissioner of the Government of India of the year 1871, there is a very interesting digest on the cholera on board the coolie ships that left Calcutta. These vessels are not very large, but nevertheless convey from 300 to 600 Indian workmen, so-called coolies, for the most part to the English colonies in America. In the course of ten years, 222 of these vessels sailed, and 33 of them had cholera epidemics, the epidemic lasting on board 16 of them for more than twenty days. One can easily form an idea from this of the greatness of the danger of the introduction of cholera for Europe, which is much nearer, if such a transport of workmen were to go from India to Egypt, for instance, or to any Mediterranean port.

On one question of cholera etiology, which is of more theoretical interest, I have not yet had an opportunity of saying anything, and should therefore like to touch upon it. It is, namely, the explanation of the noteworthy fact, that outside of India cholera always dies out after a comparatively short space of time. This disappearance of the plague seems to me to be due to a variety of factors.

In the first place, I consider it established that the individual, as in many other infectious diseases, after having once had cholera acquires a certain immunity. This immunity does not seem to be of very long duration, for we have examples enough, that a man who was attacked during an epidemic caught the cholera again in a second epidemic; but one seldom hears of a man being attacked twice during the same epidemic. But precisely in cholera several attacks ought to occur, because a

man who has got over the attack, as a rule, returns after a few days to the same conditions, and exposes himself to the same dangers and the same source of infection. Some experiences made in India, moreover, are in favor of the view that a certain immunity is obtained after having got over an attack of cholera. In the same manner as an individual can obtain immunity, so can whole localities, as a good deal of experience proves, become more or less free from cholera for a certain period. It is often seen that, when a place has been attacked by cholera, and been thoroughly infected by it, this place is often spared the next year, or it only suffers slightly, when the cholera returns.

As a second reason for the extinction of a cholera epidemic, we must take the absence of a permanent state, capable of assisting the infectious material in surviving the period of the immunity of the population that is unfavorable to its development.

Finally, we must take note of the circumstance that temperatures under 17° C. (62.6° F.) have such an unfavorable effect on the growth of the bacilli outside the body, that their multiplication can no longer take place. When all these factors work together; when, therefore, winter comes on, and only a population remains which is more or less non-labile to the epidemic, then the epidemic must die out, as the infectious matter possesses no permanent state.

Before I conclude, I should like to add a few words as to how we can utilize the discovery of the comma bacilli. The cry we commonly hear is—Yes, but what is the use of this discovery to us? We certainly know that the cholera is caused by the comma-bacilli, but, nevertheless, we are in no better position for curing this disease than before. I remember that these were often the expressions used about the discovery of tubercle bacilli.

Anybody who looks upon these matters from the point of view of the medical man who has to write a prescription, is certainly right in saying that he has as yet no perceptible utility before him; but these critics ought to consider that rational therapeutics for the majority of diseases, and especially for infectious diseases, cannot be obtained till we have found out their causes and nature. But, apart from this, I imagine we already have a very considerable advantage from the discovery of the comma

bacillus. I think, first, of how we can utilize it in a diagnostic direction. It is highly important that a correct diagnosis should be taken of the first cases which occur in a country or locality. According to my view, by showing the presence or absence of cholera bacilli, we can say with certainty whether we have cholera before us or not. This seems to me to be a very essential advantage.

I further think that, after having become acquainted with the real cause of the disease and its qualities, the etiology of cholera can be constructed on definite and fixed lines, and that we shall at length get rid of many contradictions. We shall now obtain a firm basis for an uniform action that knows the end at which it is aiming. I anticipate special advantage from the observation that comma-bacilli are killed by being dried.

It is true that the fact that the infectious matter of cholera is destroyed by being dried, ought properly to have been discovered before by experience, but experimental supports were wanting, and people were never certain on this point. Now we can regard this as a positive property of the infectious matter, and in future take this property into account. But, above all, we can deduce this advantage, that an end will at length be put to the fearful squandering of disinfectants, and that millions will not again, as in the last epidemics, be poured into gutters and cesspools without the slightest advantage.

For the rest, I hope that the recognition of the comma-bacilli can be turned to account therapeutically. We shall be able in future, even in the less severe cases, and in the first stages, to take a diagnosis. In accordance with this, therapeutic experiments, also, will have more certainty when it is known that the patient is really suffering from cholera. An early diagnosis must, however, be of all the greater value, as the chance of therapeutic success is precisely greatest in the first stages.

Professor Virchow, after thanking Dr. Koch for giving this long and detailed account of his views, said: "I say decidedly for myself that, from the beginning, I thought it very probable that the bacillus was, indeed, the *ens morbi*: but from what I have heard to-day, my conceptions on the subject have arrived at a much greater degree of certainty."

Bibliography.

FORMATION OF POISON BY MICRO-ORGANISMS. (1)

This volume contains a course of lectures delivered before the students of the Chicago College of Dental Surgery, and is divided into two parts. Part First consists of a review of the germ theory of disease from the earliest vague conjectures down to the positive investigation of this quarter century. With the different views the author presents separately the opinions of leading investigators, particularly the German authorities. In it there is necessarily nothing original, but the views are so condensed and so clearly stated as to make their perusal interesting as well as easy. Of greater interest, however, is the second part, inasmuch as it is the practical application of the deduction contained in the preceding chapters. It is a discussion of the relation of micro-organisms to the production of disease. The author starts with four propositions in which he presents the facts derived from experimentation, which are briefly these: The mere presence of micro-organisms is not, in itself, a sufficient cause of disease, but there are certain micro-organisms that uniformly induce disease when planted in the bodies of animals and men. Poisons have always been noticed to have originated in connection with disease-producing organisms. When separated from the organism these poisons produce direct effects similar to that induced by the poisons of the higher plants. This poisoning is direct and comparatively immediate, while infectious diseases arise only after a stage of incubation. From these he adduces a fifth proposition: "Therefore it is probable that each infectious disease is caused by a micro-organism that is capable of developing in the tissues or blood, and forming poisons by changes wrought in the molecular forms of matter, by virtue of its energies, or by the physiological process of digestion, nutrition and the formation of waste products." This view is strengthened by analogy with the digestive, absorptive and secretive properties of the various forms of animal and plant life in which these processes can be studied. The poisons arising from micro-organ-

A Biological Study of the Germ Theory of Disease. By G. V. Black, M.D., D.D.S. Philadelphia: P. Blakiston, Son & Co., 1884, Cincinnati, Robert Clarke & Co., Price \$1.50.

isms bear the relation of alkaloids to the original plant. These alkaloids are poisonous not only to animal life, but also to the plant itself if permitted to accumulate in sufficient quantity about it. The seventh and last lecture considers the different forms of poisons produced, and the most probable modes in which they act upon the living tissues. To this is appended a chapter on "The germ theory of caries of the teeth."

Although the book does not contain much that is original, it is one of the clearest expositions of the germ theory that can be found, and is well worth a careful perusal. We would call attention to one typographical error. The name of the distinguished pathologist, Birch-Birschfeld, appears as Birsch Hirschfield both in the text and in the index.

J. M. F.

BEGINNINGS WITH THE MICROSCOPE. (2)

The author thus describes the design of his little book:

"A teacher who can demonstrate the technique of the microscope is worth a thousand books, but failing this, the inquirer must put his trust in printed pages."

A better idea of what is contained in the book can be gotten from the table of contents than from any review we could give. There are eight chapters, as follows. The Microscope and Working Tools: Preparing Objects; Stains and Staining; Embedding; Needle Preparations and Section Cutting; Mounting; How to Work; What to Work with.

In the chapter on stains the author advises the use of red staining fluids, and gives formulæ for the preparation of several reds. We regret that he did not at least give the method of preparing a hæmatoxylin fluid, for in our judgment there is no color so suitable for the staining of tissues made up largely of nucleated cells, as so many animal tissues are.

Again, in treating of the methods of embedding he refers only to the difficult and troublesome methods of using paraffine, wax, egg and celluloid. Beef or sheep liver, cut into pieces of convenient size, and hardened first in Müller's fluid and afterward in alcohol, is one of the best and

2 A working handbook containing simple instructions in the art and method of using the microscope and preparing objects for examination. By Walter P. Manton, M.D. Illustrated. Boston: Lee & Sheppard; Cincinnati, Geo. E. Stevens. Price 50 cents.

most convenient substances that can be used.

With these exceptions the little book is very complete, and contains many valuable suggestions. It would be a useful book for the student who has had the benefit of an instructor to take home with him for future reference.

J. M. F.

HANDBOOK OF THE DIAGNOSIS AND TREATMENT OF SKIN DISEASES. (3)

This book is designed to meet the wants of the practitioner, and is, therefore, arranged with an idea of ready reference rather than as a systematic treatise. — Prominence is given especially to the diseases most commonly met in practice, and the space is occupied chiefly with their description, diagnosis and treatment, while the question of etiology is but lightly touched upon, and pathology is entirely omitted. This method of partially treating the subject is open to criticism, and on the other hand it might be asked, what would be the need of a complete manual when we already have several very good works of that kind? The absence of engravings, with the exception of two colored plates, illustrative of the several forms of eruption, macule, papule, vesicle, bleb, pustule, tubercle and tumor, also detracts from the value of the book, while it has the advantage of a considerable reduction in the price.

The descriptions are clear and concise, and show familiarity with the subject, although little space is given to the statement of personal views of the author. The book will doubtless be very acceptable to those who desire only what is practical.

J. M. F.

ELEVENTH ANNUAL REPORT OF THE SECRETARY OF THE STATE BOARD OF HEALTH OF MICHIGAN. (4)

This is an octavo volume of two hundred and fifty pages printed from small type. It is arranged in two parts. The first con-

3 By Arthur Van Harlingen, M.D., Professor of Diseases of the Skin in the Philadelphia Polyclinic and College for Graduates in Medicine, Consulting Physician to the Dispensary for Skin Diseases, Philadelphia; Physician to Howard Hospital, Department of Dermatology. With two colored plates. Philadelphia: P. Blakiston, Son & Co. 1884. Cincinnati: Robert Clarke & Co. Price \$1.75.

4 For the Fiscal Year ending September 30, 1883. By Authority, Lansing, Mich.: W. S. George & Co. 1884.

tains the Secretary's report of the work of the Board, the annual report of property, including accessions to the library, with names of donors, and certain special reports and communications. The second part contains fourteen papers, mostly by members of the Board, nine of which were prepared in the office of the Secretary. These constitute the greater part of the book and the papers all show great care and labor in their preparation. One of the most interesting of them is the report of a committee appointed by the Board to prepare a paper setting forth what is at present known concerning diphtheria. In addition to a condensed statement of the replies of forty-five prominent physicians to a list of thirty-seven questions in regard to their own observations of the disease, the report includes a summary of the conclusions arrived at by Drs. Wood and Formad, of Philadelphia, in their investigations of the source of the disease.

Other chapters of great interest are those on "Diseases in Michigan in the year 1882," "Communicable Diseases in Michigan in 1883," and "Principal Meteorological Conditions in Michigan in 1882," the last of which is remarkably complete, and is well illustrated by diagrams. A few of the diagrams, however, are so full of tracings that they can hardly be deciphered. To this is added a tabular report of the diseases in Michigan for the year 1882, compiled from the weekly reports of diseases received by the State Board from health officers of cities and villages, and from regular correspondents of the Board, and intended to show the relative prevalence of twenty-six principal diseases and their relations to meteorological conditions. A complete index is added.

The entire volume indicates a desire on the part of officials to do their whole duty, that is highly commendable, as well as an enviable devotion to the work on the part of all engaged in it.

J. M. F.

TRANSACTIONS OF THE LOUISIANA STATE MEDICAL SOCIETY. (7)

The Louisiana State Medical Society is small in numbers and but poorly represents the societies of the state. Of fifty-eight parishes only five are represented, and of

7 At its sixthth annual session, held at Baton Rouge, La., May 21, 22 and 23, 1884, New Orleans: L. Graham & Son. 1884.

574 regular physicians registered in the state, only 156 are members of the state society.

The address of the President, Dr. J. P. Davidson, is full of good advice, designed to secure a more permanent organization of the society.

In addition to the address of welcome by Dr. Day, and the President's address, there are only four addresses given us in full: The annual oration on "The Scientific Method," by Col. K. A. Cross; "Acute Plastic Iritis," by H. D. Bruns; "Deciduous Teeth," by Dr. A. G. Friederichs, and "Cremation," by Dr. F. Formento. Several other papers were read.

J. M. F.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF WEST VIRGINIA. (8)

This Society is to be commended for the business like manner in which it conducts its sessions. Instead of the usual custom of occupying three days, the greater part of which is spent in idle talk and useless discussions, the West Virginia Society crowds its work into two days, and they must have been very busy days, judging from the Report.

A number of highly interesting papers on practical subjects were read, and are given in full in the transactions. The Society is not a large one, there being only fifty members present, but the spirit of the members promises to keep it alive.

J. M. F.

PROCEEDINGS AND ADDRESSES AT A SANITARY CONVENTION. (6)

This pamphlet contains, in addition to a brief report of the several sessions of the Convention, a copy of each of the papers that were read. They were upon the following subjects: "Relation of Sanitary Science to National Wealth," by the President, Rev. J. Pierson, D.D.; "Contagious and Infectious Diseases," "Best Method of Disposing of the Dead," "Tobacco," "Ventilation," "Hints on the Care and Preparation of Food," "Disposal of Waste

5 Seventeenth Annual Session held at Clarksburg, May 21 and 22, 1884. Instituted April 10, 1867. Wheeling: Taney Bros.

6 Held at Ionia, Mich., Dec. 13 and 14, 1883, under direction of a Committee of the State Board of Health and a Committee of Citizens of Ionia. (Supplement to the report of the Michigan State Board of Health for 1884). By authority, Lansing, Mich.: W. S. George & Co. 1884.

Matter," "Chemistry in its relation to domestic life," "Present and future water-supply of Ionia," "School hygiene," "Sewerage," and a "Report on the sanitary condition of Ionia county jail."

The papers are all interesting and show, as a rule, considerable care in their preparation. As can be seen from their titles, all but one or two possess more than a local interest, and may be read with profit by persons who are not especially interested in the health of the State in whose interests the convention was called. But if we are to judge the productions by the amount of original matter they contain, it is probable that our choice would be the papers having a local value. J.M.F.

LAWS OF MICHIGAN RELATING TO THE PUBLIC HEALTH. (*)

The compilation of the State laws contained in this pamphlet was ordered made and published by the State Board of Health and was designed especially for the use of local health officers who do not receive the

8 In force Sept. 8, 1883. Compiled by the Secretary of the State Board of Health, by direction of the Board. Supplement to the report of the State Board of Health for the year 1883. By Authority, Lansing, Mich.: W. S. George & Co. 1884.

session laws. For further convenience the acts with their several sections are arranged so as to bring together laws relating to the same subject without regard to the date of enactment. At the same time reference is made to the place occupied by each section in the Statutes of the State. With regard to the subjects embraced, the laws differ little from those of our own and other States. A complete alphabetical index closes the volume. J.M.F.

SEVENTH ANNUAL REPORT OF THE HEALTH COMMISSIONER, CITY OF ST. LOUIS. (*)

This volume contains, in a remarkably compact form, a full record of the transactions of the St. Louis Board of Health, the report of the city hospital, the insane asylum, the female hospital, the poor house, and the quarantine hospital. To these are added the condensed mortality reports upon separate sheets for each quarter. For compactness the Report is exceptional. It contains more than four hundred pages and there is scarcely a page wasted. If allowable, we would commend it to the consideration of our Cincinnati Board.

1 For the Fiscal Year ending April 7th, 1884. John D. Stevenson, Health Commissioner.

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Original Articles.

MIAMI MEDICAL COLLEGE.

CASES FROM THE CLINIC FOR NERVOUS DISEASES.

By ERIC E. SATTLER, M.D.,

Demonstrator of Anatomy and Clinical Lecturer on Nervous Diseases.

It will be the aim of these articles, continued from time to time, to present to the profession the histories, treatment and subsequent progress of the most interesting cases that have presented themselves at my clinic for Nervous Diseases during the past year. It will be the endeavor to follow as fully as possible the more interesting and rarer cases, especially as regards treatment and the localization of various lesions by clinical symptoms. Groups of cases such as epilepsy, hysteria, paralyses, etc., will be presented as far as practicable in order, and general remarks and deductions made from the whole group.

1. B. S., blacksmith, æt. 32, single, temperate, no venereal history, was admitted to the out-patient department for nervous diseases Dec. 10, 1883.

Previous history.—Early history very indefinite. States that when two years old he was very sick, and not able to walk for a year and a half. Particulars wanting. Two years ago on a very hot day he walked some distance and overheated himself. As a result he says he developed what he calls facial erysipelas. His face was swollen and his feet and legs became oedematous to such an extent that he was unable to pull on his trousers. This swelling disappeared after a while, but he has never felt himself since that sickness. From time to time since, his lower eyelids, and sometimes his face, became swollen again. Statements like these coming from patients without direct corroboration by a physician, should be received with great caution; swelling of the face and eyelids is a very loose term with the laity, and very often imaginative and delusive. Last December he took a severe cold, and one morning as he was pulling on his boot he suddenly felt a sharp pain in the left leg, arm and head, traveling upwards; his left leg became violently flexed and cramped, and he fell back unconscious, becoming perfectly rigid for a moment or two (statement of eyewitnesses). Since that time he had similar spells about once a month until June, 1883. After June he no longer lost

consciousness but the cramps in the left leg became more and more frequent, coming on as often as once or twice a week, or lately, even several times daily. They invariably begin by a peculiar sensation in the left big toe, and move upward, irresistibly flexing the leg upon the thigh. The sensation, always painful, travels upwards, and at times spasm of the flexors of the arm results. The fit, as he calls it, is sometimes ushered in by a severe shooting pain in the head. The facial muscles were involved in the same spasmodic action during the first few months, and he has bitten his tongue at these times. He is able by walking rapidly and by making firm pressure with his hands on the lower part of the thigh to prevent the spasms from taking place. Forcible extension of the leg, too, seems to exert an inhibitory influence. For the last few months he thinks that the right side is beginning to partake of the trouble. In March last (1883) he first experienced difficulty in locomotion, his left leg getting weaker and weaker, when he came to the clinic.

Status Dec., 1883.—The upper part of the body, chest and arms, very well developed, (the man is a blacksmith) but the lower part of the body presents a strange contrast. The tibiae are prominent and strongly curved, convexity inwards. The muscles of both legs are atrophied, more so on the left than right side. Circumference of left calf, 17.5 in. less than right. The extensors of the left leg, especially the tibialis anticus, are visibly wasted, so that there is a hollow on the left of the tibia. On account of the atrophy and paresis of the extensors of this leg, his walk is more like that of a hemiplegic individual. He raises the leg with the muscles of the thigh and pelvis, swings it around, and brings down his foot with a decided thump. He has great difficulty in getting up stairs and over gutters. His toes seem to cling to the ground. No anesthesia or hyperesthesia. Tactile sensation unimpaired. Tendo-patellar reflex on left side greatly exaggerated, on right, apparently normal. No ankle-clonus. General health bad; complains of more or less steady headaches, not localized however; cramps three or four times daily; urinalysis negative; ophthalmoscopic examination of fundi reveals nothing pathological. The patient had been under treatment in various clinics of this city and Cleveland, had resorted to all possible advertised quack

remedies, had consulted a number of physicians without apparent benefit, and was at this time, Dec. 1883, gradually getting worse in every particular. The constant galvanic current, 20 cells, was applied to the spine, and the faradic and rapidly interrupted galvanic to the paretic muscles of the leg. A combination of iodide of potash, 10 grs., bromide of potash, 15 grs., bromide of ammonium, 15 grs., was also given three times daily. All these remedies must be given largely diluted. I generally order the patient to take the quantity prescribed in a half to a tumbler of water. It will be astonishing how much larger doses of iodide of potash will be tolerated by the system if this plan be adopted. I have at present a case in private practice which is taking 100 grains of this remedy four times daily, without a manifestation of iodism, and with marked improvement in all symptoms. The electrical treatment was continued on alternate days.

Dec. 20. Seems to have more strength in leg, and feels better generally. He sleeps better than for months—says his nerves are more quiet. No improvement as yet in the cramps.

Dec. 26. Appetite better, headache less frequent. Greatly rejoices because has had only two slight cramps in three days.

Jan. 6, 1884. No cramps since December 30.

Jan. 30. Has been free from cramps for fourteen days.

To test what influence the medicinal treatment has had, the iodide and bromide solution was stopped, and the tinct. cinch. comp. substituted. For two days he had no cramps. On the third day they set in as violently as before, and continued daily for four days, when the iodide and bromide treatment was resumed with almost immediate relief from all spasmodic action. There was little or no improvement in the paretic muscles, but this was not discouraging, as very little had been expected in that direction. The treatment was continued, and no cramps took place for a period of several months, when the patient suddenly left for Europe, and nothing heard from him since June, 1884.

There are several interesting features about this case which deserve attention. First the curvature of the tibia and atrophy of the muscles of the leg. This must probably be referred to an acute poliomyelitis anterior taking place during infancy and in-

distinctly hinted at in the history. There has no doubt recently taken place a progressive wasting of the extensors of the left leg, as shown by measurement and naked eye appearances. But where localize the present trouble—what pathological change produces the present spasms? Where situated? What clue do the symptoms furnish us?

Intricate as the case may seem, we can with the present accumulated experimental and clinical facts approach with a certain degree of exactness the seat of the trouble. Ferrier quotes from Charcot and Pitres several cases of so-called partial hemiplegic epilepsy. A girl aged 18 had been affected with infantile hemiplegia of the left side at the age of four. She was subject to epileptic attacks, beginning in the left leg, which was paralyzed. There was no facial paralysis. After death a patch of degeneration was found in the right hemisphere, occupying the upper half of the ascending frontal, the bases of the first and second frontal, the anterior part of the posterior parietal lobule, and the whole of the internal aspect of these regions. Secondary degenerations of the motor tract of the cord existed. The second case was a similar one of infantile hemiplegia followed by partial epilepsy, the spasms being limited to the right leg at first, but gradually invading right arm and right side of face. The position of the lesion diagnosed during life, was the upper extremity of the ascending frontal and parietal convolutions of the corresponding or paracentral lobule. This region was the seat of softening. No other lesion existed. In this case also secondary degeneration was found in the right half of the spinal cord, in the postero-lateral column.

Ferrier furthermore states in regard to the so-called "Jacksonian epilepsy," that "if the convulsion be of the character of a monospasm, or if, tending to become generalized, it begin invariably in the same way and do not cause loss of consciousness, and if it be followed by paresis or paralysis more or less permanent, we may diagnose an irritative lesion of the motor area of the opposite hemisphere."

Hughlings Jackson reports two cases of crural monospasm. In one, the fits began almost invariably in the right leg, and were frequently limited to it. The leg began to grow weak, and more so after each fit, the paresis deepening ultimately into a permanent paralysis. A tumor was found at pos-

terior part of the left frontal lobe, about two inches in diameter, extending forward into the posterior part of the first and second frontal convolutions. In the second case the convulsions began in the left great toe, often confined exclusively to the left leg, and followed ultimately by paresis of the left foot. After death a syphilitic lesion was found "at the upper part of the posterior ascending or ascending parietal region, extending over part of the upper end of the ascending frontal, and over several of the adjacent convolutions of the parietal lobule of the right hemisphere." The lesion is in exact correspondence with the situation which Ferrier assigns to the motor centers of the foot and leg.

My case above reported corresponds to this last one of Jackson's in many respects. That we have to deal with a cortical lesion of some kind, there seems no reasonable doubt. What the precise character of the lesion is, we have no exact data to go upon and formulate a definite opinion. The seat from clinical and experimental evidence we can locate in the motor centers of the foot and leg, experimentally settled by Ferrier and corresponding to the convolutions described in the last case of H. Jackson given above.

Two other features of importance in this case deserve our attention; first the effect of medicinal treatment, second, the character of the knee-jerk. There can be no doubt of the efficacy of the iodide and bromide treatment in lessening the irritability of the cortical substance, and thus lessening and even completely abolishing the spasms. The iodide alone had been given for months without producing beneficial effects in this direction. We see, too, that the bromides must be given continuously, for their good effects are only apparent as long as the system contains them, in this way exerting only a temporary, not a permanent cure. It is my firm conviction that the bromides act directly on nerve tissue in some way, and not indirectly by producing anæmia. It is generally laid down in the text books not to give bromides to anæmic individuals. Experience has taught me that such teaching is wrong. Some of my best results in nervous disorders of various kinds occurring in extremely anæmic women have been brought about by the use of the bromides of potash, ammonium or sodium.

The tendo-patellar reflex in the case above cited was greatly exaggerated on the left

side. We expect to find in cases of poliomyelitis anterior a diminution or complete abolition of patellar reflexes. Exaggerated reflex occurs, as stated by Bramwell, in diseases of the lateral columns, and is usually associated with secondary degeneration. It may also result from increased excitability of the gray matter. Both these conditions probably exist in this case. A curious phenomena observed was a very marked diminution of the reflex when the system was under the influence of the bromides, showing that increased excitability of the gray matter of the cortex plays an important part in this condition.

104 West 8th street.

AN OBSCURE CASE OF HÆMATEMESIS AND MELÆNA.

By C. B. VAN ZANT, M. D., Cincinnati, O.

The following case is of interest from the obscurity attaching to the cause of the most notable symptoms, the vomiting of blood and its discharge per rectum.

The history is as follows:

Rosa S., æt. 18, of German parentage, unusually large for her age and well nourished, though quite anæmic and of flabby muscular tone. Has always been well with the exception of having for some months past been troubled with unpleasant sensations in the stomach, at times amounting to actual distress, though never to severe pain. The distress, which was not constant in its manifestation, was invariably relieved by the ingestion of food. At times vomiting occurred, the ejecta being at first mucous, and then, bilious in character. Headache always accompanied the vomiting and was relieved by it. The appetite has always been fair, the bowels regular. Patient has no cough. The menstrual flow has always been regular and sufficient in quantity. No eruptions or ecchymoses mark the surface.

On the evening of August 16th, after finishing her work for the day, patient went home feeling poorly and lay down. About 10 P. M., after uneasy gastric sensations, she was seized with a sudden hæmatemesis, vomiting a large quantity of fluid, containing about a pint of blood, dark in color. Patient felt weak and exhausted, but did not send for medical aid. At 2 A. M., (August 17th) she had another attack of hæmatemesis, amounting to probably six ounces.

Saw patient for the first time about 8 A. M. Face, conjunctivæ and prolabia were intensely blanched; skin was covered with a clammy sweat; face and extremities were cold. Pulse 120, weak. Has attacks of syncope at short intervals. No nausea at present. Had the patient's head lowered and the room well ventilated. Ordered absolute quietude. Allowed broken ice, but no fluid ingesta, except small quantities of iced milk at short intervals. Prescribed tinct. opi., gr. 15, and plumbi acetat., gr. 1, every three hours. Returned at five p. m. Patient had rallied considerably, but during the visit was suddenly taken with another attack of vomiting and threw up about a pint of dark, grumous blood, in a large quantity of fluid. Patient was left with a pulse of 170, barely perceptible; with cold face and extremities; covered with a clammy sweat; yawning and sighing; intensely restless and thirsty; and of a death-like pallor. The foot of the bed was raised; hot bottles and blankets applied; cold applications over abdomen; and inhalations of spirits of camphor were used. A rectal injection of whiskey, 3ss. was given. No ingesta allowed except broken ice, to partially relieve the intense thirst. Gave persulphate of iron, mixed in water, as soon as vomiting ceased; assuming the attendant risk of aggravating the vomiting, in the hope of gaining the local, styptic, effect, if, as seemed probable, the source of the hemorrhage were a gastric ulcer. No vomiting occurred subsequently. Also gave ergotin, gr. ij. hypodermically. At six p. m., the patient had rallied a little, the pulse being 150, though thready.

Seven p. m. Repeated the whiskey, 3ss. per rectum, and the ergotin, gr. 1, hypodermically; continuing the other measures. At this time patient passed a stool of soft consistence; about 63 in quantity; of a dark, tarry, appearance and evidently consisting of altered blood.

Ten p. m. Gave ergotin, gr. 1, hypodermically.

Twelve p. m. Gave ergotin, gr. 1, and whiskey, 3ss, hypodermically.

August 18th, two a. m. Gave ergotin, 1 gr., and whiskey, 3ss. hypodermically.

Five a. m. Gave ergotin, gr. 1, and whiskey, 3ss. hypodermically.

Seven a. m. Gave ergotin, gr. 1, and whiskey, 3ss, hypodermically.

Nine a. m. Gave ergotin, gr. 1, and whiskey, 3ss, hypodermically.

During the night the pulse averaged about 132. Extremities were a little warmer. Thirst and restlessness somewhat diminished. At ten a. m., ordered beef juice, cold, 3i. every hour. A little iced tea had been allowed during the night. Up to noon three tarry stools, aggregating about a pint, had been passed.

At one p. m., was suddenly taken worse; weaker, paler, colder, fainting. Pulse 160, very weak. Experiences nausea and a sense of weight in the stomach. Yawns, sighs, and is very restless. Evidently an internal hemorrhage of severe proportions has occurred.

Gave ergotin gr. 1, and whiskey 3ss, hypodermically.

Four p. m. Ordered pills of ferri persulphas, gr. 1, and opium, gr. 3/8, every two hours, and gave another hypodermic of ergotin and whiskey.

Five p. m. Cheeks flushed. Pulse 160 beats, excited. Slight febrile reaction, with a little delirium.

Ten p. m. Pulse 150, and very weak.

Twelve p. m. Hypodermic of whiskey and ergotin.

August 19th. Six a. m. Pulse 156, a little stronger. Gave hypodermic of whiskey and ergotin.

Nine a. m. Ordered whiskey, 3vi, every three hours per rectum, and the pills of lead and opium continued, having now been used regularly for twelve hours. No stool last night. Patient is slightly delirious this morning, and passes her urine involuntarily and unconsciously. Is very restless and thirsty.

Five p. m. Febrile reaction has recurred with flushing of cheeks and excited pulse. Pulse 150, and feeble. Ordered fl. ext. ergot, 3ij, to be added to each injection of the whiskey, every three hours, and inhalations of ammonia.

Seven p. m. Gave ergotin hypodermically. Cold applications to abdomen; blankets; hot bottles; iced tea (3ij, every hour); beef juice (3i, every half hour); pills of iron and opium; enemata of whiskey and ergot; all have been regularly used to-day. Absolute quiet was enjoined.

August 20th. Four a. m. Slight emesis of a brownish fluid, like beef tea. The beef tea was discontinued, and ice only allowed freely. Pulse 140.

Nine a. m. Pulse 120, and stronger than at any previous time during her illness. Patient is brighter mentally. Thirst

is intense. Allowed 3ij, of ice water every half hour and ice liberally. Also a little iced tea. Pills and stimulant injections were continued.

Five p. m. Febrile reaction. Is conscious of urination to-day, and has more control over the act.

August 21st. Patient is much improved. Pulse 120, and of moderate force. Has a little color in her cheeks and prolabia. Thirst is still intense. Slept a few hours last night for the first time in three or four days. Has had no stool in last twelve hours, but passes small quantities of mucus, attended with some tenesmus. This appeared to result from the irritation due to the injections of whiskey. The patient being now much stronger, the injections were discontinued. The pills of iron and opium were stopped, gelatine coated quinia pills, gr. ij. each, every four hours, were ordered, partly for their tonic effect, and partly to check if possible, the febrile excitement which appears every evening.

Five p. m. No fever this afternoon. Pulse 130. Is troubled with severe rectal tenesmus. Fearing that the tenesmus might tend to cause recurrence of the hemorrhages, tinct. opium, ʒiij, in starch water, was ordered as an enema, every four hours, till the tenesmus was arrested. Milk ingested seemed to disagree and excite eructation, so that it was discontinued. Allowed small quantities of strong coffee, as a stimulant.

August 22nd. Passed about four ounces of dark, tarry, blood, last night, in three stools; but little mucus in the passages. Tenesmus was arrested by two laudanum injections. Allowed small quantities of ice cream, and poached eggs (white), in the way of bland nourishment. Pulse 120. Patient says she feels like a different person.

Five p. m. Pulse 120. Has passed at least a pint of dark, hard, clots to-day, resembling blackberry jelly. Since her sickness, the amount of mæna, as nearly as could be estimated, has been over a pint.

August 23rd. Eight a. m. Pulse 114. Slept four hours last night. Took a little beef juice and oat meal gruel to-day, in addition to small quantities of ice cream and poached egg.

August 24th. Pulse 110. Steady improvement. Continued the quinia pills.

August 25th. Pulse 120. Takes considerable liquid nourishment.

August 26th. Two small natural stools

in the last twelve hours. Pulse 112, and of fair force.

August 28th. Pulse 96. From this time there has been gradual improvement in the patient's general condition. She sat up for the first time on September 6th. She is now able to walk about and feels perfectly well, though still somewhat weak. She, as yet, takes no solid food; nothing but bland, fluid or semi-solid articles, which are varied to suit the changing tastes of the patient.

Several questions in the matter of diagnosis present themselves, as we look at the case, detailed somewhat at length above.

First.—What is the cause of the hemorrhage?

Second.—Was there a distinct gastrorrhagia and enterorrhagia, or was the entire hemorrhage from a single source? If the latter, where is it situated? Not taking into account the many rare causes of gastrorrhagia, the hemorrhage might result from

a. A gastric carcinoma.

b. Cirrhosis of the liver, pylethrombosis or other interference with the portal circulation.

c. A vicarious menstruation.

d. Scorbutus or purpura.

e. Aneurism, opening into the œsophagus.

f. Hemorrhage from the lungs.

g. Gastric ulcer.

a. Carcinoma is excluded by the youth of the patient; the absence of any tumor; of pain, or cachexia.

b. Cirrhosis may be safely excluded by the youth of the patient and the absence of any history of alcoholic indulgence. Pylethrombosis is excluded by the absence of all the symptoms which would follow mechanical obstruction of portal circulation.

c. As vicarious menstruation only occurs in amenorrhœa, it is excluded in this case, where the menstrual flow is regular.

d. None of the causes or distinctive evidences of scorbutus or purpura are present.

e. The patient's age is against aneurism. No history exists of pain in the chest, periodic dyspnœa, dysphagia, inequality of the pupils, spasmodic or paralytic affections of the larynx or any of the more common symptoms of thoracic aneurism.

f. The blood was distinctly vomited; was dark in color, and mixed with gastric contents. The reaction was not tested. Hence, pulmonary hemorrhage may be excluded.

Nothing is left to fall back upon except

gastric ulcer. The patient's sex, age and feebleness of constitution favor a diagnosis of this trouble. The indefinite distress referred to the stomach for some months prior to the hemorrhage, while not like the more or less constant, gnawing pain of ulcer, is still of some value in the formation of an opinion. The relief of pain which always follows the ingestion of food in this case, is not the history of ulcer. Yet, taking everything into consideration, the probable condition in the case, we are inclined to think, is gastric ulcer. From the fact that the earliest vomiting of blood preceded by at least 21 hours, the passage of blood per rectum; and that the blood passed from the bowels was black, tarry and in clots (unlike blood from the lower part of the small intestine or the large), we judge that the hemorrhage was all from this one source; part of the blood, poured into the stomach, being vomited and part passing into the bowels. The sudden prostration occurring on August 18th, at 1 o'clock, p. m., the pulse rising from 128 to 160, and collapse appearing imminent, was doubtless due to an internal hemorrhage of severe character; the blood thus poured out, being subsequently passed from the bowels at irregular periods for several days. The blood vomited and that passed by the rectum, as nearly as could be measured, amounted to about 453. The case is interesting from its obscurity and from the *vis naturæ* it displays, to withstand so heavy a drain on the vital fluid.

Correspondence.

FOREIGN CORRESPONDENCE.

GÖTTINGEN, Sept. 14, 1884.

Editor Lancet and Clinic:

SOME OF THE LATEST BACTERIA INVESTIGATIONS AND THEIR RELATION TO KOCH'S RESEARCHES OF THE EUROPEAN CHOLERA EPIDEMIC OF 1884.—Results arrived at by some of the older investigators and diligent workmen in this field, Prof. H. Kaufmann, W. von Naegeli, etc. ("Lower Parasites in their Relation to the Infectious Diseases"), had already made the spontaneous generation of parasites (*generatio æquivoca*) very probable, but of greater importance are the experimental observations and logical deductions made by Professor Wiegand, professor of botany at Marburg, and just published in his pamphlet entitled "Origin

and Development of Bacteria." We can certainly give but few of the results obtained, and for more must refer the reader to the interesting pamphlet itself. Prof. Wiegand proves in the very beginning that "bacteria can originate from organic substances independently from germs;" he proves this first of the bacillus of sepsis or putrefaction (*fäulnisbakterilen*) and thereby explain how putrefaction and bacteria exist within the living organism, and how dead animals and plants begin to putrefy internally, gradually extending toward the exterior.

He then explains how the milk, cheese and bread fermentation is carried out by means of bacteria originating in the interior of these substances, even if placed in a vacuum, likewise in the conversion of starches to sugars these bacteria of spontaneous origin are the principal cause, and Wiegand draws the conclusion that "*here the bacteria are not only as in putrefaction and fermentation the cause of a definite destruction of organic substances, BUT ARE LIKEWISE THE MOST IMPORTANT FACTORS IN THE NORMAL, MOST NECESSARY PROCESSES OF LIFE IN THE PLANT ORGANISM.*" The question whether there exists a definite relation between the form and effect of the bacteria he answers in the negative, for the same putrefaction processes are set up by various very different forms of bacteria, and again, many bacteria morphologically alike often have entirely different effects. The principal factor upon which the quality of the respective bacteria depend are undoubtedly the substance and conditions in and under which they originate. To the question, how do the bacteria originate? he claims to have derived the answer from his own microscopical examination, namely, that they are formed by a metamorphosis or transformation of the protoplasm in the cell. There are formed at first dancing granules (micrococci), some of these take on a rod-like shape (bacilli), and soon show signs of a division, or the rods and double rods (*doppelstäbchen*) are at once formed in the amorphous granular mass. Wiegand claims in his observation to have been able to constantly follow the changes in the original protoplasm until the bacteria were fully formed and developed therefrom. He saw thus not only micrococci and bacteria but also vibriones and spirilli originate within the closed cell.

In the blood Wiegand observed bacteria

long before putrefaction could occur, forming from the white blood corpuscles, as their finely granular contents were first transformed into micrococci, and these several cocci again into at first motionless and later into continually moving bacilli. The result of these investigations seems to uphold the views of the French Cholera Commission regarding the presence of the bacilli in the blood.

Finally from these experiments and observations he concludes that the origin of the bacteria is not a *generatio æquivoca*, a mere transformation of organic form from structureless organic substances, but is a metamorphosis of certain definite histological elements of protoplasm (Uoftoff) into independent morphological and physiological structures, that is, in short, a complete metamorphosis of the protoplasm.

Of the four main divisions (micrococci, spirilli, bacteria and bacilli), only the latter class, the bacilli group, are present in the discharges of a healthy individual, and they are found alone on account of the great resistance which their spores offer to the influence of the gastric juices, which destroy the others in from twenty to thirty minutes. The bacilli are not only never absent, but likewise make up the greater portion of the fæces, both as regards quantity and quality. The author isolated five different varieties of bacilli, of these, two appear to possess very important physiological functions, namely, the first splitting up the albumen, the second splitting up the carbo-hydrates (starches, sugars). The former variety is not found in infants whose only food consists of milk. These functions are each characteristic of the respective variety, that is, the one only possesses the albumen qualities, and not the carbo-hydrate ones, and vice versa.

Here we therefore have two bacilli that possess very important functions in the intestinal digestion, and which henceforth can not be destroyed without disturbing the normal physiological process of digestion, and thereby destroying the individuals themselves. Compare these results with some of Koch's conclusions.

But to continue our recent bacteria investigations and results.

a. Bacteria form a small world of themselves, of whose infinite extension as little doubt remains as of the existence of the astronomical heavens at large. From this follows that their study can not be made

the foundation and basis of science (the application of our knowledge of medicine to the art of healing), which can not wait for results of observations lasting for tens and hundreds of years, but must satisfy the demands of the present day; that does not exclude the continuance of these investigations on a scientific basis, but forbids the conveyance of too hasty conclusions and insufficient investigations into the practice of medicine.

b. Bacilli and bacteria do not only accompany but actually carry on all the vital processes, the generation, the building up, the decay, the death, the normal and abnormal (pathological) changes that take place, in the cells of the animal and plant kingdom. The term "parasites" for bacilli is not, therefore, correct on a strictly scientific ground, and is only applicable in certain processes of disease in which they have been altered by the pathological changes depending upon it.

c. The experiments and derived results of Nægeli, Brefeld and Nertman have undoubtedly proven that very low forms of life can be changed from one to the other, represent one another, as it were, under different given conditions, in short, that the "specific" bacillus does not exist. A non-alteration as regards kind or function (namely, the bacillus to remain the same from creation to infinity, and to generate identical ones) can not, therefore, be assumed on any reasonable grounds for these experiments, but certain specific functions, as long as all conditions surrounding them are alike, must be conceded to the bacilli. The cultivated bacilli (reinkulturen), which change at once with any alterations in the required conditions, of Pasteur, Koch, Spina, etc, are dependent upon the temporary specific character which is, therefore, only a relative one.

d. The so-called contagion by means of pathogenous (causing disease) bacteria is a process which is as much exaggerated by the followers of the "infection theory" as regards the frequency of its occurrence as it is unreasonably denied by the opponents of the theory. This contagion is not a necessity governed by neverfailing laws of Nature, as is best proven by the numerous failures of inoculation with those materials known to possess a high specific character, for instance, the bovine virus, but they create a definite process, governed by Nature's own laws, in those cases where the

necessary conditions are likewise present. By the withdrawal of these surrounding favorable conditions, the specific character decreases in proportion, and the pathogenic bacteria either assume their original normal character, or are entirely destroyed.

From these observations we may draw important conclusions in regard to the "DISPOSITION" (inclination) to contagious diseases.

OTTO FENNEL, M.D.

DIFFICULT LABOR.

COLUMBUS, IND, Oct. 11, 1884.

Editors Lancet and Clinic:

Reading the report of a "case of difficult labor," by Dr. Jno. L. Davis, and the discussion following leads me to report the following:

I was called at 10 A.M., March 1, '83 to see Mrs. S., æt. 40, multipara. Messenger found me five miles in the country, and informed me my services were in demand on account of the failure of a midwife to deliver his wife. Thinking it was probably a case of "tardy contracture," I did not go to my office, but went direct to the patient, and unfortunately had no anæsthetic with me.

An examination revealed a rather bad state of affairs. Waters had escaped three hours before, uterus contracted down upon the child, which presented the right shoulder, with the arm and hand extended and external to the genital outlet. I made a diagnosis of the position of the child from the position of the hand and arm, and from external exploration. It was a neglected shoulder presentation without doubt, and could have been rectified before the escape of the waters. The midwife stated that the hand "had been born two hours." Knowing that it would require at least two hours to obtain assistance and ether, I decided to make an effort to relieve her without consuming time which was valuable to the patient.

The best lubricant at hand was the traditional "goose oil." Smearing it copiously over my right hand and arm, I made an attempt at turning, placing the patient crosswise upon the bed, with her feet supported upon chairs. My assistants were two women, one fifty and the other seventy years of age, and they "looked on" as thoroughly as the heart could wish.

I spent no time trying to return the arm, but made a direct search for a foot. I

could not remember at the time just what the books advised, and I do not believe I know now. I think that any one with ordinary judgment, after making out the position of the child, can probably devise a method at the bedside with which to reach a foot and the one he wants.

After patient effort for about fifteen minutes, I worked my way up until I could grasp a knee. After getting hold firmly, I waited fully five minutes to regain my strength, which was nearly expended.—Making traction upon the thigh by my hold upon the knee, I found as the knee descended the arm ascended, and I succeeded in bringing down the right knee and returning the arm by traction alone. I used the left hand simply to steady the patient.

The labor was then hastily concluded, experiencing only slight delay with the head, no laceration of the perineum, child dead.

The contractions of the uterus were very strong during the turning, in fact it would have been impossible for me to have relinquished my hold upon the knee during a pain.

My patient was perfectly conscious, and seemed to bear the operation extremely well, rallied in an hour, and made a good recovery.

Temperature did not rise above 101° F. at any time, and that was only once during the second day.

Six weeks afterward, found a lacerated cervix, but can not say if it was due to last labor, as she had not been examined for that condition previous to her last pregnancy.

While I do not advise any one to attempt version without an anæsthetic, I do not think it would have been of any benefit in this case.

It is in emergencies of this nature that the humble country doctor gets his dear-bought experience, and although he may be a mere cypher in medical societies, he has learned his lessons well.

This was the second case in my practice where version was accomplished without an anæsthetic, my relation to both cases being nearly identical, failure of an ignorant midwife to deliver the patient, the position of the first being transverse, with a prolapsed funis.

I always carry ether now, and prefer a knee to a foot if it can be seized readily.

It has been my good fortune to meet

with one case of spontaneous version, the presenting part being the left shoulder. I had never undertaken the operation of turning at that time, and asked for counsel, and while awaiting for the arrival of Dr. L., I determined to examine my patient carefully and appear to be doing something anyway. Examining during a pain, I discovered the changing position of the fetus. I took my seat by the bedside and discovered that each pain was changing the position of the fetus, and finally converted a shoulder into a vertex presentation. I was strongly tempted to interfere when I could make out the left ear, but did not, Nature completing the delivery.

GEO. T. MCCOF, M.D.

GONORRHOEA TREATMENT.

POMEROY, O., Oct. 10, '84.

Editor Lancet and Clinic:

DEAR DOCTOR:—Having, like other physicians, had repeated disappointments in the treatment of gonorrhoea in the male, I began to look about for some remedy that would better answer my purpose. After repeated experiments with various combinations, I at last found one that has given entire satisfaction if used as directed:

R. Hydrastin gr. ss.
Boracic acid, gr. jss.
Morph. acetate, gr. ¼.
Chlor. sodium, gr. j.

Pure cocoa butter, q.s. to make bougie 3 inches long.

My method of using it is, first have patient urinate, then cleanse the urethra with starch water, after which introduce bougie. Continue this morning and evening until the discharge ceases (which it does in from two to five days), and then one each evening for five evenings more.

J. W. LILLY, M.D.

FINDING it necessary to get away from lake air, would like to correspond with a physician in an inland city, well situated, and desirous to locate in Chicago. Address X., care LANCET AND CLINIC.

The New York State Board of Health is about to undertake an investigation as to when a patient convalescent from an infectious disease ceases to be capable of conveying the contagion.

Society Reports.

CINCINNATI MEDICAL SOCIETY.

Meeting of September 23, 1884.

B. STANTON, M.D., W. H. M'REYNOLDS, M.D.,
President. Secretary.

Report of Obstetric Department of Cincinnati Hospital.

DR. WM. H. TAYLOR, physician in charge of the obstetric department of Cincinnati Hospital, presented the following report from December 1, 1883, to April 1, 1884:

The obstetric department of the Hospital is in a pavilion entirely separated from all others, except the apartments for private female patients which are immediately beneath. The attendance upon the patients is in all respects isolated from all other parts of the institution. The interne in charge is not permitted to visit the mortuary or to have any association with the surgical wards. In attendance upon labor cases he is required constantly to use antiseptics before making vaginal examinations, and in prolonged labors or where operations are performed antiseptic vaginal or uterine injections are made. Patients awaiting confinement are kept apart from all others. They are required to bathe twice a week and are furnished an entire change of clothing at the same time. They are employed at light sewing. When labor begins a rectal injection is given, after which the woman is sent to the "Delivery Room," remote from all other patients. After delivery an abdominal bandage is applied and the woman removed on a stretcher to a large well-ventilated ward, where are from six to fifteen women convalescing from confinement. The routine treatment here is a vaginal injection of bichloride of mercury, 1 : 2,000, twice a day, for ten days; a mild purgative on the third day, a nutritive fluid diet for four days, afterward unrestricted food. The women are kept in bed ten days, pulse and temperature are taken twice daily, and if any patient give evidence of septic conditions she is immediately removed to another pavilion.

Women coming into the house in labor or soon after are not admitted to the same department as those who come in some time before the expected confinement, but under the term "Emergency Cases," are

kept remote from all other obstetric patients.

During the period from December 1, 1883, to April 1, 1884, seventy-nine deliveries, exclusive of abortions, took place.⁽¹⁾

Of the mothers 42 were primipara, 37 were multipara; 54 were native-born, 22 were foreign, 3 not stated; the youngest was 16 years of age, the oldest 44 years; the earliest age of first menstruation, 12 years; the oldest was 27 (of whom further notice later). Having made special inquiry as to the occurrence of vomiting early in the pregnancy, 47 replied in the affirmative, and in 32 it did not occur at all.

Presentation and position: Vertex, 64; L.O.A., 43; R.O.A., 18; R.O.P., 2; L.O.P., 1; breech L.D.A., 2; compound, foot, hand and cord, 1; doubtful, 12.

Operations: Forceps, 5; podalic version, 2.

The temperature being taken twice daily for ten days after delivery, the highest noted was

99° or less in 37,
100° " " " 10,
101° " " " 11, 1 fatal peritonitis,
102° " " " 5,
103° " " " 2,
104° " " " 6, 1 scarlatina, 1 intermittent fever,
105° " " " 2, 1 artic. rheumatism.

In every case but those specially mentioned the marked elevation was transient, and, except the one fatal case, all the women were discharged well.

Of cases of special note were

Forceps Cases.

1. Mary B., æt. 20, I pa. Thirty-six hours of pains with membranes unruptured and but little progress. The os dilated sufficient to admit narrow blade forceps; by intermittent traction the os was dilated in thirty minutes; a live male child, weighing eight pounds, was delivered in right occipito posterior position. Result to mother and child satisfactory.

2. Nellie L., II pa., brought into hospital in labor, says she has had some lung disease for two weeks. Three hours after admission the local conditions were favorable for speedy delivery, but, owing to her dyspnoea, she was unable to make sufficient expulsive effort. Simpson forceps there-

fore applied and a male child, ten pounds in weight, living, speedily delivered. Convalescence satisfactory.

3. Emma J., æt. 26, I pa. Membranes ruptured before the os began to dilate, consequently morphia was freely given to arrest pain. Dilatation progressed slowly. Forty hours after rupture of membranes the os was nearly fully expanded, forceps were applied, and female child weighing nine pounds delivered in R.O.P. The passage of the shoulders ruptured the perineum extensively, from which copious hemorrhage took place; compression forceps and hot water were used for some time before bleeding ceased; six sutures were placed in the perineum. Discharged well in four weeks.

4. Mary S., æt. 25, I pa. Preliminary pains for forty-eight hours. The os dilated slowly, when sufficiently dilated for use of forceps, the pulse was 110, temperature 100°. The membranes were therefore artificially ruptured and forceps applied and a male child weighing eight pounds delivered. Convalescence satisfactory.

Case 5 detailed under another heading.

Versions.

Joanna M., æt. 19, I pa. Active labor for eighteen hours. Membranes projecting in glove-finger-form through lax imperfectly dilated os. Membranes ruptured artificially, followed by more rapid dilatation, but in four hours thereafter the os was becoming oedematous, the uterine tumor was slightly tender, temperature 99.8°. The head was freely moveable above the brim, and had a large caput succedaneum. Podalic version was performed without difficulty, but the child was born dead. Satisfactory recovery of mother.

Mary J., æt. 22, II pa, came into house stating that the membranes ruptured several hours previously. On admission the os was found high up, not dilated, the cervix not obliterated, very slight pains; the next morning the os was dilated, pains were frequent and of moderate force; a foot, a hand and the pulsating cord were found at the os. The woman was anæsthetized and traction made on the presenting foot with external pressure upward on the head. The child was easily delivered alive, but, being premature, it lived but twenty-four hours. The mother recovered satisfactorily.

H. O. Landis, in the *American Journal of Obstetrics*, 1882, reports a number of

¹ For details of cases I am indebted to Internes, F. O. Marsh, F. P. Dorschug and Henry Royer.

cases where three or four separate fetal parts presented at the os. With regard to these complicated presentations but little is said by authors of obstetric text-books, and to a great degree one must be guided by his own judgment and experience as to the best course to pursue.

Puerperal Fever.

Maggie F., Ipa. Membranes ruptured before os dilated; warm vaginal douche used several times; child was delivered without other interference about sixty hours after rupture of the membranes. A chill occurred six hours after delivery; the next day the temperature was 104° , pulse 136; uterus hard, tender to pressure, extended to umbilicus.

She was given twenty grains of quinine, was put in wet sheet for fifteen minutes, had an ice cap applied to head, with two grains of quinine and half an ounce of whisky every three hours. The temperature fell to 100.8° and the pulse to 116 within five hours; the third day the lochia was offensive; the fourth day the temperature rose to 103° , the pulse to 124. Active antipyretic treatment was repeated, and again, on the fifth day, the temperature rose to 103.8° and the pulse to 120. The refrigerants were again used, after which the case progressed satisfactorily and the patient was discharged well four weeks after delivery.

Catherine L., æt. 23, Ipa. Admitted March 8, with the statement that labor pains began on the previous morning and are becoming more frequent, but not more severe. The os was found high up, not dilating, the cervix not obliterated; therefore gave chloral, which quieted the pain, so that the patient was able to go about the ward, made no complaint and was apparently well until the morning of the 11th, when the house physician was called and informed that pain returned and the membranes had ruptured at 8:30 o'clock the previous evening, the liquor amnii escaping at intervals through the night. The nurse stated that the conduct of the patient differed in no way from that usual during the early stage of labor, she walking about and lying down at intervals.

At 9:30 a.m., the pulse 130, temperature 100.1° , fundus was tender to pressure (as I was absent from the city and my colleague, Dr. Tait, could not be found, Dr. Kelly, interne-in-chief, assumed the care of the case.) At 1:30 p.m., the head was in

the pelvic cavity, but little progress was being made, the abdomen was tympanitic, she was restless, had vomited several times, pulse 140, temperature 101° . The forceps were applied, a still-born child weighing nine pounds was delivered. The uterus contracted well, soon after delivery her pulse had fallen to 108 and temperature 99.1° . Two hours after delivery she had a feeble rapid pulse, cold extremities, had four thin stools. Hot bottles were applied, whisky, warm milk and anodynes were given, profuse diarrhoea and collapse supervened, hypodermics of ether and whisky and carbonate of ammonia by enema were given, but with no good result and the patient died at 10:30 p.m.

The only lesion found on post mortem examination by Prof. Eichberg was "Intestines congested and covered with a deposit of flaky lymph, the dependent portion of the peritoneal cavity contained a purulent inflammatory fluid. Cause of death, peritonitis post partum (?)"

This history suggests some very important questions which are by no means easy to answer satisfactorily: What was the cause of death? Septicemia? The woman had been living under good circumstances till admission, three days before delivery. She was exposed to no known septic influence in the house and was with other women who had no untoward occurrence. Her conduct before and during the early part of her labor gave no evidence of serious disease. Her labor was not long or violent, yet comparatively early she began to fail, showing that from some cause there was unusual vulnerability. The marked failure was the cause for instrumental delivery, hence forceps cannot be charged with causing prostration, and careful post mortem examination showed that no material lesions of the genital passages existed.

The autopsy revealed peritonitis, and with that fact before us the queries suggested are equally difficult to answer. If septic, where and whence did it come? Her conduct before labor gave no evidence of it. The constitutional depression began very early in labor, before exhaustion usually is manifest, and at an earlier period than the lesions occur, through which it is supposed contamination usually takes place. Assuming that the peritonitis was of traumatic origin, then, of course, it began after labor set in, and probably some hours after. With this assumption then we

must believe that traumatic peritonitis may prove fatal within ten or twelve hours after the injury is received, a proposition which cannot be accepted without admitting the existence of some special vulnerability. That a special proneness to morbid processes after delivery is induced by depressed mental conditions is well known, and, in such a case as the one we are considering, I believe we are justified in the assertion that the condition of mind attending an illegitimate pregnancy and delivery may be a prominent factor in determining an unfavorable issue in the puerperal period.

Scarlatina.

Sophia W., æt. 29, I pa, admitted February 18th, delivered satisfactorily March 17th. On the 21st, temperature 102.2°, pulse 135, throat congested, sore, furred tongue, lochia diminished, not offensive, mammary secretion good, scarlet eruption over upper part of body. The patient was immediately removed from the obstetric department, passed through decided scarlatina, and recovered satisfactorily.

The woman, who first menstruated at 27 years of age, was of average development, though disposed to phthisis. She stated that prior to the establishment of menstruation any excitement would be followed by hemoptysis, further that her mammæ did not develop until she began to menstruate, and that hair then first appeared upon her pubis.

It being necessary to aspirate an acute hydrocele in a boy, fourteen days old, chloroform was given. After a few inhalations he passed into a quiet sleep, from which he awoke in a few minutes, having been apparently unconscious of pain.

DISCUSSION.

DR. DAVY said he was opposed to the use of any injections in a perfectly normal case of labor, not only because it is unnecessary, but also because of the disturbance of the parts and danger from contact with injurious foreign matter in the atmosphere or on the hands of attendants.

DR. STANTON thought care in the administration of injections would obviate the objections of the previous speaker. He believed the use of injections beneficial, but the benefit was more in the water than in the bichloride it contained, though the latter was not objectionable, and was probably useful in some cases. The cases of the essayist were so successfully treated and

clearly reported that little room was left for discussion.

DR. TAYLOR asked for the opinion and experience of the members as to how soon death would occur from traumatic peritonitis.

DR. DANDRIDGE said he had seen a very rapid case a few years ago. A young woman washed in the morning and died in the night, after suffering eighteen hours from peritonitis. The autopsy failed to reveal the cause of the peritonitis, which was very general.

DR. DAVY said there was something very obscure about the development and progress of some cases of this disease. He mentioned that of a young man who had a gun-shot wound of the stomach and small intestines, causing death in twenty-seven hours. The post mortem examination revealed very little peritonitis.

DR. STANTON said that death in this case would seem to be due more to shock than to peritonitis. Such a case differs very materially from that of a parturient woman where the peritoneum is in a condition readily to take on inflammatory action.

AMERICAN GYNECOLOGICAL SOCIETY.

[CONTINUED.]

Held at the Palmer House, Chicago, September 30, October 1 and 2, 1884.

DR. A. R. JACKSON, in the President's chair. DR. FRANK P. FOSTER at the Secretary's desk.

Reported by Liston H. Montgomery.

Afternoon Session of Second Day.

Several accessions of members having arrived very materially increased the attendance, among whom were Dr. Thaddeus A. Reahy, of Cincinnati, O.; Dr. Harvey, of Indianapolis, and a large number of physicians from Chicago, as invited guests.

DR. A. R. JACKSON, who presided, called the meeting to order at three o'clock, and stated to the fellows that a communication had been received from President Smith, announcing the intelligence that he was still confined to his hotel from indisposition, and that he would not be able to be present before next morning. The president's address was transmitted with the note, but upon motion, duly seconded, he was accorded time until Thursday morning to read it, a courtesy which afforded him

much pleasure as was subsequently ascertained.

DR. CHR. FENGER, of Chicago, was made a member by invitation.

The first paper announced, or tenth on the programme,

The Limits of Vaginal Hysterectomy for Cancer,

Was read by DR. PAUL F. MUNDE, of New York, and was the second contribution from this gentleman, and considered essentially of a voluminous reply to Dr. Jackson, of Chicago, who read at the meeting last year held in Philadelphia, a paper that was entitled substantially the same subject, or as it was at the time announced. "Is Extirpation of the Cancerous Uterus a Justifiable Operation?" In which its author had arrived at the following conclusions:

First. That a diagnosis of uterine cancer could not be made sufficiently early to insure its complete removal by extirpation of the uterus.

Second. That when a diagnosis could be made, there was no reasonable hope for a radical cure, and other methods of treatment for ameliorating suffering or retarding the progress of the disease, and prolonging life were equally effectual.

Third. That extirpation of a cancerous uterus was a dangerous operation.

DR. MUNDE then reported two cases and exhibited the pathological specimens. A brief resumé is as follows:

He thought condemnation of the operation by Dr. Jackson was hasty and premature, that some gynecologists had long since abandoned Freund's operation, he admitted. He himself had condemned it. But as this society condemned the procedure as it was discussed at its last meeting, he wished now to speak of its merits, and present a more favorable aspect of the operation and discuss the propositions offered by Dr. Jackson from a clinical and statistical point of view. The author however omitted to read the history of the operation which he had prepared, and passed on to results and deductions made in his cases.

Case one, was an operation for removal of an epithelioma of the cervix of six month's duration. The operation consisted in the removal of the entire uterus and both ovaries and adjacent tissue. The patient was out of bed on the twelfth day and made a rapid convalescence. The uterus was very much enlarged. It weighed seven and a half or eight ounces. On microscop-

ical examination of the cervix and portions of cut surface from the lateral vagina being made by an experienced microscopist of New York, the writer was informed of the exact character of the cancerous mass, and the probable degree of rapidity of the growth; and further, that in all probability the disease would return at the point excised from the lateral portion of the vagina in nine months. It did recur in nine months at this spot as had been previously foretold. She was in the meantime in excellent health, but was now of course under palliative treatment.

His second case he operated on November 19th, 1883. The uterus weighed three and a half ounces. The operation was a much more difficult one, and the patient died in forty hours afterwards. Her temperature ran up to 107° F. with the pulse at a correspondingly high rate. The operation was a dangerous one, and he would not operate again on a similar case. Dr. Jackson's paper was then further commented on—first, regarding early diagnosis of cancer, patients do not present themselves sufficiently early to afford expert physicians an opportunity of diagnosing their case, whether it was because a woman is in dread of having her difficulty pronounced cancer, or whether she neglects her condition and abstains from going to a physician, he was not able to state. The author quoted from writers and collected eight hundred and twelve cases of cancer where hysterectomy was performed thirty-four times. From another source where four hundred and sixty cases were operated on, two were removed by radical operation. In one hundred and thirty-six cases where cancer was removed with the galvano-caustique, ten were fatal, and thirty-one, or twenty-five per cent. remained well after two years.

SCHROEDER, in all forms of operation on one hundred and twenty-nine cases in eight years, performed the abdominal supra-vaginal method on twenty-eight, with the following result: 21.8.10 per cent. remained well at two years, and some after three and a half to four years. From another source of four hundred and forty-eight operations twenty-three remained free from the disease after two years. In one hundred and thirty-one cases of mammary cancer ten died soon after. The operative procedure of partial excision and application of caustiques does not certainly cure the disease, although in eighty-two cases removed by this method

forty-eight recurred in from two months to two and a half years, and thirty-two remained well after two years, which is 39.20.10 per cent.

Statistics show that operative procedures are directly justifiable, and the rest of the patients life made tolerable, by diminishing pain, etc. Authorities were quoted to prove that partial extirpation should not be neglected. Vaginal hysterectomy will not be abandoned in spite of the unfavorable results. In 235 cases where the high supra-vaginal amputation was performed in Europe, and 21 in this country, in all 256, only 62 deaths occurred, 10 of which were in this country. The indications for the operation may, therefore, be summed up as follows:

1. Limitation of the cancer, and freedom from the perimetrium.
2. Where the cervix only is involved by the growth.
3. Cancer of corpus uteri, in removal of which there have been five deaths.
4. Perfect freedom of motion of the uterus.
5. A capacious vagina.
6. A strong constitution to withstand the shock. Cachexia should be carefully noted. The results are encouraging and the operation promises a brilliant future.

DISCUSSION.

DR. JACKSON inquired if a good many of the cases did not die within 24 hours or a week or month after the operation. If so, would they not have lived longer under palliative treatment?

DR. MUNDE replied that those who died in one, two, or three weeks he regarded as succumbing to the operation. He knew of no case dying on the table. He hoped that Dr. Jackson would not think, because he had mentioned his name so often that he had done so in vain.

Prolonged calls were then made for Dr. Jackson, who arose to state that he felt honored to have his name so prominently mentioned. He thought he could not overcome the arguments of the eminent writer. Operations should relieve suffering or prolong life, otherwise they are unjustifiable. Does extirpation of the entire organ fulfil these conditions? He holds that it does neither. In the 153 cases of removal of the uterus, referred to in his paper, more than 200 years of life had been sacrificed. Where only the cervix was affected they lived, on the average two years and a half, without

operation; where the body was affected they lived 18 months.

Many cases operated on die in from a few hours to a few days.

He inquired of the essayist if when operated on, did statistics prove that they lived eighteen months afterward? This, the speaker meant, is where extirpation of the entire organ had been done.

In three operations of this kind that have been performed in this city, two of the patients died in a few hours, one case is still living, although the operation was done over two and a half years ago, perhaps it is three and a half years ago now.

The microscope can detect a spot that is diseased after its removal, whether in the plexuses, symphatics or elsewhere, yet the microscope can not show how far the disease has extended, foci may be left for rapid reproduction.

The speaker quite agreed with the essayist in one statement he made, that patients do not call on us in the very early stages or onset of the disease.

The essayist believes the rate of mortality from this operation will be reduced. The speaker doubted this ever being the case. The operation is a gamey one with a patient's life. What is a successful operation? If an uterus, a stomach or any other organ is removed, we do not remove the disease nor cure the patient, for its recurrence is sure, and the operation is not well chosen, and procedures far less dangerous could have been found. The cautery could be used, or the cancerous mass scraped, with far less danger to this unfortunate class. He, therefore, thinks the operation unjustifiable without regard to special cases.

DR. ELY VAN DE WARKER, of Syracuse. —The paper is an extremely valuable one. In this debate we must be careful about the attitude we assume on pelvic surgery, for this will appear upon the record of our proceedings. So too with the paper, and in dealing with it. Statistics have nothing to do with its contents, for nothing lied like figures, except facts. In one case Dr. Mundé's paper answered itself. Where the disease is limited to the uterus, and where the peritoneum has not been involved by cancerous deposits. Other methods of operation are as potent, if not more so, in some instances, and equally as safe. The question was not how many died and how many recovered from the operation. If some other method were chosen to remove

a cancer, and it did not recur again, then it has proved a success, and he had seen other procedures tried than total extirpation, and the disease did not return.

His ideas are, that there are two classes of cases, where the disease may or may not return. The first class includes young women who have malignant disease, where the knife has been used for its removal. Here it is more apt to return after a shorter period. The second class includes those that have passed beyond the climacteric period. He thought equally good results could be obtained by other methods of operating, although we should not be prejudiced against the operation. He therefore entered his protest regarding its not often being necessary. Yet other methods were equally as beneficial in many instances.

DR. GEO. J. ENGLEMAN, of St Louis, agreed with the author in everything he said. He thought the paper had not been misunderstood, as he himself did not understand, that its meaning is or that the operation was or must be absolute. We are justified in testifying as to the propriety of the operation. For oöphorectomy and ovariectomy have had a struggle, and the former has not yet been settled. And this operation is as yet too young for us to arrive at positive conclusions. Theory can not reach it, but chances for its recognition are improving, and the success already gained warranted its continuance. He has seen better results from the operation than have been stated in the paper. Regarding the death rate of those who died in three or four weeks in consequence of the operation, those cases would have died in all probability in that length of time had the operation not been attempted.

In reference to the few cases that lived for two or three years, that Dr. Jackson alluded to, they are enumerated in the first series or number of operations, which is 185. Out of the first table of 235, only a few have lived two or three years. Time will readily settle the question. If they live eight or ten years afterward, or if the disease should never return, Dr. Jackson would join in the same opinion that the operation was a justifiable one.

Some patients may live twenty or thirty years after this operation has been performed on them, which they certainly would not do if the disease were left to eat its way into other tissues. It is unjust to say the operation kills a patient, and to

those who survive for any considerable period of time it has proved a blessing.

He thinks the percentage of recoveries from it in Europe is eight per cent. Up to some time ago Martyn had operated 52 times, but it may be that by this date the number reaches 65 or 70, and better results have followed than Dr. Mundé has stated. However he did not wish to impress on the fellows that he claimed it to be as justifiable as ovariectomy.

DR. C. D. PALMER, of Cincinnati:—The paper demonstrates one point, the mortality being reduced from 76 per cent. to 24 per cent. Freunde's method of abdominal section is abandoned on the same general principle that by improved technique the mortality may be reduced as low even as 10 per cent, though it seemed to him that we are not justified in performing so dangerous an operation as vaginal hysterectomy where the cancer had its origin in the cervix and is limited to that part of the uterus. Before we have seen the cancer the disease may have extended to the perimetrium. Can we tell this in one-half the instances? In cancer of the mammæ, particularly in fat subjects, if the cervical or axillary glands are involved we have to remove them also if any benefit is expected to be derived. How then is it possible to tell if the uterine perimetrium has been invaded? Cases of soft sarcoma are usually limited to these tissues, and not to the cervix.

DR. WM. H. BAKER, of Boston, last year supported Dr. Jackson's paper. He inquired of Dr. Mundé if vaginal hysterectomy was contraindicated in cases where the disease was confined to the corpus uteri?

DR. MUNDE replied that it was not.

DR. BAKER resumed. 'He had not so understood it. Another misunderstanding came from the words used by the author.—operation for hysterectomy in all cases—for the number was limited where this operation should be performed.

He agreed with the author that the cases we see early are comparatively few, and often beyond hope when we see them. Having seen patients living after the operation who doubtless would not have survived had no operation been performed, he could endorse the procedure. Of six cases operated on last year, five are now living, one case recurring fatally. Operations confined to the cervix are safer, but the others are wiser when the disease has extended beyond that part of the uterus.

DR. JOHN SCOTT, of San Francisco, who stated his apology for speaking was because he had come a long distance to hear the proceedings. He was pleased to hear the able paper presented by Dr. Mundé. It was the finest production the speaker had heard in a long time. He believed its author had once belonged to the legal profession, where he was fast gaining renown, and he thought what that profession had lost we had gained by the author of the paper becoming a member of the medical profession. His sympathies are with Dr. Mundé. He sympathised also with Dr. Jackson, who was old like himself (laughter). When the operation is justifiable, for we should be cautious in our opinion, then we should go ahead to perform it. We have good operators in San Francisco, one of whom is becoming eminent, while he was performing this operation death occurred on the spot, from hemorrhage, although undoubtedly twenty-five to thirty per cent. get well. Dr. Cushing, another excellent operator from our city, removed, but a short time ago, an epithelioma. The case was a suitable one for operation. The uterus was small, one-fourth of the cervix was destroyed, and the rest of it was small, diagnosis was not difficult. It was *par excellence* a choice case for the operation. There was no bleeding to speak of. She recovered, fattened, gained strength, and no trace of the disease could be discovered. Yet in seven months time the disease reappeared and in two or three months more she died. Here was a case where apparently all trace of the disease was removed, and yet, within a short period of time, returned with greater malignancy which proved fatal. The question of diagnosis is important. Cases have been diagnosed as cancer that were not cancer at all. The speaker recited first a case of laceration of the cervix, where menorrhagia had continued for some time, that had been diagnosed as cancer; second, a case of supposed abortion, where the placenta had not come away and there was a cock's comb excrescence or split appearance of the os and neck, with a fetid discharge, that had been diagnosed cancer; whereas, with hot injections, a blunt curette, and operation on the split cervix, the difficulty was remedied and the patient cured. In the argument to-day he could readily perceive that it was the young fellows arrayed against the old fellows, like Dr. Jackson

(renewed laughter), who are more conservative. His friend, an Italian surgeon of his city, operated on another case where the uterus was fixed and the vagina also was the seat of disease. He operated eighteen months ago. The woman did not gain flesh and she has a sallow skin. The cachexia indicates that the disease is lingering in her system. This surgeon has received extensive information in Italy and states that the ratio of mortality from operations is greater there in these cases than it is in this country. The speaker thought we should remove as much of the uterus as we can by the knife to be followed with the application of the actual cautery.

DR. JACKSON arose to extend an invitation to Dr. Thad. A. Reamy, of Cincinnati, to discuss this subject.

DR. REAMY said the author of the paper had the ability to prove that statistics would prove or did prove that the operation prolonged life and that it cured the disease, or from a clinical standard that it was justifiable. Regarding the remark made by Dr. Engelman, who compared the history of ovariectomy with the history of this operation, this the speaker had never heard done before. The argument was illogical, and it was not fair to quote it as such, nor does it answer that the operation prolongs life. In ovariectomy the disease is positively removed, in this it is not positive. He then related a case, living in his city, where a lady has had cancer of the womb for three years and she is at present getting along quite comfortably under the use of palliative remedies. He knew a case in Kentucky, and could name the patient, also her physician, where the patient has had the disease four and one-half years, and she has not been touched, *i.e.*, there has been no operation performed on her for its removal. Statistics may prove a lesser rate of mortality as technique improves. Eight years ago the operation was first performed, but statistics as yet do *not* show that cancer is more readily cured by it. When the disease is confined to the lower portion of the cervix and the entire cervix is removed the disease may possibly not recur, but where the disease has extended as far up as the cervico-vaginal junction, and we see it there, then it is fair to presume that the disease has gone beyond and hysterectomy is unjustifiable. The writers two cases, the specimens of which he has shown us to-day, prove

nothing. The first case was one where he was in doubt about its return. The microscopist predicted return of the disease and it did, and his other case died.

The percentage of recoveries shown by Dr. Engelmann, and that the operation can be more safely performed, as shown by Schrader and others, that the mortality is less and less, the proof is wanting that the operation prolongs life. They are too recent to give us much information in this direction. He does not disclaim to detest the operation, but that further facts are needed before we should endorse it.

Dr. C. FENGER, of Chicago, was surprised and discouraged at what he had heard from the fellows to-day. Last year the paper that was read upon this topic received the endorsement of the Association. It seemed to him, where the vagina was small, the operation for extirpation could not be done. However, the future will determine this, and gynecologists will continue operating until we hear more about it. He would advance no opinion as to its merits nor would he decry the procedure.

Dr. MUNDE continued the discussion, which he also closed, before doing so it was evident that he was feeling quite jubilant and pleased to find the majority coincide with his views. He expected some opposition; that some would disagree with him. Regarding the statistics compiled, both Dr. Jackson and himself had prepared them for the papers that each read. To compare it with ovariectomy, as Dr. Reamy stated (which, by the way, is a good point that he too thought of, but did not mention it, nor did he think any one else would allude to it) and he acknowledged that Dr. Reamy was right. We will continue to operate to see if it cures the disease. A successful operation is one that cures the disease or accomplishes the object aimed at. He also acknowledged that a number of cases live without operative procedure or treatment for a long time. If his paper should be read hereafter, as he hoped it would be, he hoped the operation would also be performed by others. The operation is yet in its infancy, and to test its value it should be tried on another 100 cases. He trusted it would not be dropped on theoretical grounds. If the disease appear within two years after the operation, or if death occur within 24 hours or two weeks, all this would count against the operation. He exhibited specimens to the fel-

lows to show that he had performed the operation twice. With a beautiful tribute to the fraternal spirit of the profession throughout the land, Dr. Mundé closed his able effort amid tumultuous applause.

Half an hour later the Association adjourned until Thursday morning.

The annual business meeting was held in the evening with closed doors, at which were heard reports of the treasurer and auditing committee, action on proposed amendments to the constitution and by-laws, nominations for honorary and active fellowship by the council and balloting for the same, and report of the committee on publication.

The election of officers for the ensuing year resulted as follows: President, Dr. Howard, Baltimore; vice presidents, Dr. Richardson, Boston; Dr. Mundé, New York. Secretary, Dr. Frank Foster, New York; treasurer, Dr. Matthews Mann, Buffalo. Adjournment of the business meeting.

CHICAGO MEDICAL SOCIETY.

Dr. D. A. K. STEELE, President.

The regular semi-monthly meeting of this society was held at the Grand Pacific Hotel on the evening of October 6th, 1884.

The regular appointed essayist was unavoidably absent.

Dr. JOHN BARTLETT, chairman of the committee on *National Sanitation*, reported that while they had agreed on the substance of the proposed resolutions to be submitted for presentation to congress, they were not in shape to report to the society, although signed by most of the members, he therefore asked for further time to consider the matter, which was accorded.

Dr. JOHN H. RAUCH, secretary of the Illinois State Board of Health, had read the resolutions prepared by the committee, and as he had been invited by one of its members to address the meeting on their importance, and that of national co-operation with states and municipal governments in arresting the spread of epidemics, he said, (the following being the gist of his remarks), that matters should be so arranged that there would be concert of action in all municipal cities and state boards with a national health organization. That the national government should have control of interstate quarantine he had no doubt upon. The trouble all arose out of inefficient maritime quarantine. Illinois was specially in-

terested in this from the St. Lawrence river to the Rio Grande river, and from the Atlantic ocean to the Pacific ocean, for this State pays more Internal Revenue tax than any other State in the Union, New York not excepted. Cholera may arrive at Montreal or Quebec, and be brought to this city and State over the Grand Trunk R. R., the Michigan Central R. R., or on the Michigan Southern R. R., and we have authority to stop these trains at the State line only, and prevent their entering the State of Illinois. New York controls that port exclusively, and Illinois has no authority to interfere while her interests in keeping out diseases was just as great as that of New York. The Illinois Board of Health was prepared to prevent the entry of infectious and contagious diseases no matter what contingency might arise, but it would be better if she could depend upon the aid of her sister States who were equally interested. Two-thirds of the number of emigrants coming to this country arrive at the port of New York. The emigrant inspection service carried on by the National Board of Health a few years ago, under the auspices of the National Government was done at a cost of \$50,000. When some forty odd thousand emigrants were vaccinated on the trains, and there was no deception. The National Board of Health no longer exists except only in name, the last congress having cut off all appropriations; consequently we are not in as good shape to ward off epidemics as we were three or four years ago. An endeavor to protect the States cannot be well done on account of inefficient maritime quarantine, and the only resource we have at present to cope with these diseases is for the different States to act in good faith and compact with each other. An illustration was cited by the speaker to prove his statement correct, where in 1878 to 1879 along the banks of the Mississippi and Ohio rivers, epidemics prevailed, that since the organization of the sanitary council of States along these rivers infectious diseases and all other diseases are much less. The speaker then recited the history of the National Board of Health, its origin and many other interesting points concerning it, the inefficiency of our laws, etc., and cited further illustrations; how inadequate the surgeons of this port and the one at Cairo would be to cope with any form of epidemic, and that instead of this being only under control of the state,

it should be controlled by the National government. Now is the time to prepare to secure legislation, instead of waiting until after the heels of an epidemic have arrived, as has been done heretofore. Those who have charge of sanitary interests in the different States should study the cause of disease, investigate the subject, and through thorough co-operation with a national health bureau we would be well prepared to antagonize against the advent of cholera next year. The machinery of no one man can be made to work or control the state of commerce satisfactorily, nor can this be done by one State alone; more States should be represented and concert of action of all those in authority should prevail. The United States Treasury is entirely independent of States in this respect. A conference of the boards of health of the several States and territories will be held at St. Louis next week, having for its object the co-operation of all authorities for the purpose of controlling epidemics and contagious diseases. The thought that some plan would be evolved that would prove more satisfactory to all, and do away with the jealousies that have hampered the action of the national health bureau. The general feeling prevails that we are going to have cholera in this country next year, and now is the time to prepare for it, as the resolutions call for.

DR. J. H. HOLLISTER said, that as a member of the committee he should decline to attempt to instruct congress as to its duties in the matter, but thought that a memorial presented by this society would be the better mode of proceeding. If our memorial to congress is only to express a desire of what is most wanted by the public, then we, as medical gentlemen, have done our part. It is a subject that takes hold of common interests, and how to render efficient aid suitably but not unnecessarily is something that more wisdom can be gained from than by temporary discussion. He thought our wisest men should meet in conference and unite on some practical method, and then urge legislative action. The speaker asked Dr. Rauch to what extent are States moving in this direction of having State boards of health organized? and to what extent does their authority reach? He was answered that Massachusetts, New Hampshire, Connecticut, New York, New Jersey, Maryland, West Virginia, Virginia, Indiana, Illinois, Michigan, Kentucky, Tennessee, Louisiana, Mississippi, Arkansas, Alabama,

Iowa, Wisconsin, Minnesota and Missouri, each have their State boards of health. Ohio, Pennsylvania, Maine and Vermont have no State boards of health. Lower Canada has none. But that the Ontario board of health is in good shape. The Michigan board of health is an advisory one. The Illinois board of health controls quarantine, and can call on sheriffs and constables to obey her dictum. The health boards of Missouri and Minnesota are nearly like ours. New York's board is partly like ours in authority. Indiana is nearly like ours, only better, for there they have county boards of health. The boards of health of Maryland and Virginia are also very efficient.

DR. L. H. MONTGOMERY alluded to the merits of the National boards of health, of the efficient services rendered by it in the past. It not only performed its onerous duties with a degree of celerity and exactness, but it pleased the public as well. He had spoken to the representative in the congressional district where he resided upon the subject, and was informed by the member that he would be glad to do his part, and use his influence toward securing the granting of legislation for the establishment of some form of a National sanitary organization. The speaker was also assured by the honorable gentleman that he had been and at present is a friend of the National board of health. Regarding memorializing congress, as Dr. Hollister has stated, there is a clause in the resolutions providing for this. Indeed, if needs be, we might do more, and petition or appeal to our National legislators in behalf of the public, commercial interests, and welfare of the country generally, that they appropriate a suitable amount of funds and appliances for some form of inter-state observation, under the auspices of the federal government. It seems to me prudent to do so, and that it is a step in the right direction. And that a representative physician from each State and territory in the Union be appointed on this board. Our esteemed friend representing this State, informed us at our last meeting, that he had sent his resignation to the President of the United States. It should not be accepted unless Dr. Johnson, whose health is impaired, is absolutely unable to serve, or from other private reasons it would be detrimental for him to longer do so.

DR. R. E. STARKWEATHER had hoped that the committee were prepared to submit

their resolutions this evening. He as one of its members endorsed every word they contained, even at the risk of their being, (as possibly they were in one place), tautological. He hoped the committee would be able to perfect them before the close of the week.

DR. RAUCH in conclusion stated, that he intended to speak to some extent upon this subject at the meeting of the State boards of health, to be held at St. Louis next week. A special meeting will probably be held at Washington in December of all the State sanitary boards, at which time this subject will receive especial attention. The society tendered a vote of thanks to Dr. Rauch for his address and information given. The committee on resolutions was then requested to meet immediately after the meeting, which was then adjourned.

L. H. MONTGOMERY, M. D., Sec'y.

TORSION OF LARGE ARTERIES.—Before the late International Medical Congress, Dr. Oscar Wanscher (Copenhagen) read a communication on the torsion of large arteries near their bifurcation. He had, he said, had no cases of his own, but he had experimented on the common iliac artery of the dog in six cases, and on the common carotid of the horse in nine. If peripheral torsion were made (as of the common iliac near its origin from the aorta), the retraction of the inner coat, even though limited, was sufficient to prevent hemorrhage. In torsion of an artery nearer the centre of enucleation, as of the common carotid near its bifurcation, the chances were not so good; but, if a short time were allowed to elapse between the interception of the flow of blood and the act of torsion, so as to permit the establishment of the collateral circulation, the retracted portion would be carried some distance by the blood-current. Retraction should be extensive in an artery of the size of the common carotid of the horse. Torsion alone could hardly be considered sufficient in the vicinity of large collateral branches; but, in such cases, retraction deserved to be regarded as an excellent aid. Retraction of the membranes might take place without compromising the inner vitality of the artery or causing extensive coagulation, provided that proper instruments were used, especially one to compress the artery, and push back the inner membranes.—*Med. and Surg. Reporter*.

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Selections.

MEDICINE.

THE ANTAGONISM EXISTING BETWEEN CARBOLIC ACID AND ATROPIA.—Bartholow, in the fifth edition of his *Materia Medica and Therapeutics*, makes the following statement, viz.: "I am indebted to Dr. A. C. Post, of New York, in a verbal communication for the important fact, that atropia is a physiological antagonist to the systemic symptoms induced by carbolic acid. He was induced to administer atropine in a case of poisoning by carbolic acid on observing the minutely contracted pupil and the failing circulation. The result was successful. Similar success has attended the same practice in other cases. Experiments in animals have also demonstrated the existence of this antagonism, which may now be regarded as an established fact."

This statement coming from and being endorsed by good authority, I determined to find out in how far this might be true of the isolated heart. Looking over the literature, so far as it was at my disposal, I am unable to find any published cases of experiments on animals on this point, and Bartholow does not refer to any.

My own experiments show first, that, after the heart has been carbolized, atropia increases its rate, and also its work; second, it shows a more rapid recovery takes place after carbolization under atropinized blood

than under normal blood. While, during and immediately after the first carbolization, the heart ceased to beat entirely, and remained completely motionless, under atropinized blood, the ventricle, at least, did not cease to beat, but kept on contracting. Under normal blood it took 18.³⁰ min, before it was again able to overcome its normal pressure and pump over blood; under atropinized blood this took 13.³⁰ min., five minutes less. A more careful study of the tracings which will appear in the next number of the "Studies from the Biol. Laboratory, J. H. Univ.," will, I think, be sufficiently convincing of the fact that we have in atropia a physiological antagonist to carbolic acid so far as the isolated heart of the terrapin is concerned. The exact mechanism of production of these phenomena is much harder to explain, on account of the innervation of the heart not being as clearly made out as could be desired, but the practical result, I think, is plain enough. I believe, however, with H. C. Wood, that atropia must have a very powerful stimulant action upon the intra-cardiac accelerator centres, because after the heart has been completely paralyzed by carbolic acid allowed to recover under atropia, the rate in some of my experiments shows an increase of from 31 to 42 beats per minute.—Dr. H. G. Beyer, U.S.N., *Proceedings Naval Medical Society*, vol. ii., No. 1.

FEBRILE LASSITUDE. — Under this title (*courbature fébrile*) Dr. C. Elroy describes (*L'Union Médicale*) a condition characterized by a moderate degree of pyrexia, some gastric disturbance, and extreme lassitude, with a bruised feeling in the muscles. There is almost constant headache, with pains in the legs and lumbar region. The fever is moderate, seldom more than two or three degrees above the normal, and usually presents an evening exacerbation. The digestive disturbances are slight. The abdomen is soft and painless and without any eruption. Constipation is the rule. The fever subsides in three or four days, but the headache and anorexia remain a few days longer. The cause of this condition is found in excessive fatigue following prolonged muscular exertion. It also results from exposure to extreme cold or heat. Violent emotion or a severe mental shock may cause similar phenomena. It is perhaps due to disturbances in trophic in-

nervation, and occurs with greatest frequency at the two extremes of life, when the nutritive processes are either very active or very sluggish. It may at the outset be mistaken for a commencing typhoid fever, but a short time suffices to clear up the diagnosis. It may be distinguished from a bilious attack by the condition of the tongue, which in the latter is heavily coated, while in *courbature* it is usually clean.

The treatment consists in rest, and the exhibition of quinine in small, repeated doses. The feeling of extreme weakness is best relieved by coca or alcohol in some form.—*The Practitioner*.

DECUSSATION OF NERVES.—A considerable modification will have to be made in the prevailing opinion that in all cases the pyramidal tracts decussate at their well known site in such a manner that the bulk of the fibres of one side passes over to the lateral column of the spinal cord, whilst the small remainder continues downwards in the anterior column. From careful clinical observation it seems not at all improbable that greater complexity ought to be introduced into the anatomy of the nerve paths of the brain. Secondary degenerations of cerebral origin are sometimes confined to the opposite lateral columns of the cord exclusively, sometimes to the opposite lateral column and the internal part of the anterior column of the same side as the cerebral lesion. Titres has also collected ten cases of unilateral cerebral lesion, in which the secondary degeneration occupied both lateral columns of the spinal cord. The cerebral disease varied in its nature, extent and site. The secondary sclerosis traversed the peduncles, pons and anterior pyramid, and then abruptly became bilateral below the decussation of the pyramids. The secondary changes were sometimes exactly symmetrical, sometimes more marked on one side than the other. The columns of Türck were generally spared, or presented but slight damage, whilst the other structures of the cord presented a normal appearance. M. Pitres has sought to explain the coexistence of symmetrical medullary lesions with unilateral disease of the brain. His explanation is founded on the individual variations of the decussation of the pyramids as described by Fleming. There may be simply a crossed pyramidal tract, and

each may bear almost any relation one to the other. Further, the pyramidal tracts of the two sides of the brain may or may not proceed after the same plan; the decussation may be complete for one tract and incomplete for the other. In certain subjects it seems possible that the fibres of one pyramidal tract in the bulb may split into two portions, one of which may proceed down the opposite lateral column, while the other descends in the lateral column of the same side. This disturbance of balance and progression appears to be more persistent and more grave when the secondary sclerosis is bilateral than when it is unilateral. Partial paraplegia, exaggeration of the knee-jerk, and contracture of the lower limbs may exist, however, where the sclerosis is unilateral.—*Journal American Medical Association*.

SURGERY.

STRANGULATED FEMORAL HERNIA.—MORTIFICATION, SEPARATION OF BOWEL.—RECOVERY.—(By James W. Lewis, Auburn, Ind., in *Columbus Med. Journal*.) — In presenting for publication the report of this case, I do so with a twofold purpose: first, because I believe it to be an almost unheard of result; secondly to give a synopsis of the treatment of the case, to satisfy the demand of a number of practitioners, and to offer a theory as to how the cure was effected without using the knife.

I was called to see Mr. T., aged 51, a laborer, in consultation with my partner, Dr. Cowan, July 29, 1883. He had been suffering for a number of days from what was supposed to be impaction of feces, or invagination of the bowel, up to the morning of same day, when pain called the attention of the patient to the right iliac region. Examination revealed the presence of a tumor about the size of a hen's egg, which he said had existed in a lesser size since he was 16 years old, and which had been caused by excessive jumping. The tumor was exceedingly painful, with a marked gangrenous appearance in the center, including an area not larger than a fifty cent piece, the circumference retaining its vitality, though highly inflamed and of a purplish color. Vomiting of stercoraceous matter had continued several days, which, together with the obstinate constipation which had existed from the onset and the lack of knowledge

of the presence of the tumor, had led to the diagnosis of intestinal obstruction from other causes than hernia. He had repeatedly been given brisk cathartics and enemata with no other result than to exaggerate the pain and cause more frequent vomiting. The presence and nature of the tumor now made the diagnosis plain; hence all cathartics and enemata were stopped, and small doses of morphine administered hypodermically, and stimulants per orem. The case was now apparently beyond hope of relief, either by taxis or the knife, hence the only course to pursue was to try to save the life of the patient by the formation of an artificial anus. This being agreed upon, we determined to open the sac to the confined bowel, and if enough vitality remained in it, to pass it back into the abdominal cavity and operate for the radical cure. I incised the skin only, when there exuded about two ounces of black, frothy stercoraceous matter, containing small particles of undigested food and detached portions of omentum. This being cleared away, the bowel on examination proved to be a portion of the small intestine, most probably of the ileum, gangrenous and perforated in several places in the loop, which was about three inches in length, covered above by a small portion of the omentum also gangrenous and sloughing.

A careful examination of the parts the following day showed complete separation of the gut, the ragged ends of the separated bowel remaining in the sac, held there by adhesions as proved by the fact that an attempt to withdraw either end proved wholly futile. About two hours after the opening of the sac and escape of accumulated matter, there was a free evacuation of the bowels both through the artificial opening and per rectum—the first five or six days.

The dead portions of the gut, omentum and integument were now removed as well as possible, and the cavity filled with lint saturated in a solution of glycerine and carbolic acid, one part of the latter to forty of the former, and the patient treated with a view to establish an artificial anus. By August 12, all the gangrenous portion of the omentum and bowel, the walls of which were to all appearances perfectly healthy, as extensive granulations had been thrown out, sloughed out.

I now began to slowly close the opening by pressure and by approximating the edges with the aid of adhesive plaster, and from

this time on very little passed through the opening, although the patient's appetite was good, and he took a moderate amount of easily digestible food. October 1st the opening was almost perfectly healed, a mere sinus only remaining unclosed, through which enough fluid passed to form a small crust, the size of half a pea, about once a week. This, however, continued only a short time, and at this time, August 15, 1884, nothing passes. A small cicatrix only remains as proof that the hernia had ever existed, and the patient announces himself as perfectly well and is again at his old occupation.

One peculiarity which I noticed especially, and deem worthy of mention here, was the spontaneous operation of the bowels so soon after the opening of the sac, which had not responded to cathartics and enemata. Prior to the opening of the sac the patient was fast becoming delirious, the countenance wearing the terrible expression of pain and anxiety so often seen in these cases, all of which passed away with the first few acts of defecation.

How this radical cure was effected in this case is a matter for much speculation, but from minute and repeated observations, I am forced to the conclusion that the ends of the separated bowel did not reunite spontaneously, but that each part being held firm by adhesions to the walls of the canal, which was very large, there was formed out of a portion of the sac a kind of pocket or receptacle which by closing the opening exteriorly, acts as the connecting link between the ends of the separated bowel. The case was subsequently presented at a meeting of the DeKalb County Medical Society, with many theories as to how the cure was wrought without resort to the knife, and by directly uniting the ends of the bowel and holding them intact by sutures. Some claimed that the gut was a portion of the colon—which truly seems plausible—and that instead of a complete separation, there was only a perforation with adhesions to the walls of the peritoneal cavity, the walls taking the place of the destroyed portion of the gut. This view, regarding the colon as the part involved, I know to be erroneous, for the whole calibre of the intestine could be examined after separation had taken place. Again, it is not probable for the colon is rarely, if ever, implicated in a femoral hernia; yet from all proof and conflicting evidence against the theory, it has advocates,

who believe they have as good an hypothesis as anyone, and one which cannot be demonstrated to be incorrect until death and circumstances grant opportunity to the scalpel to reveal what to them is a matter of conjecture.

CLASSIFICATION OF CIRRHOSIS OF THE LIVER.—Dr. Saundby showed at a meeting of the Midland Counties Branch of the British Medical Association a microscopic specimen of hypertrophic cirrhosis of the liver, in which numerous newly formed biliary canaliculi could be seen naturally injected by inspissated bile. In this case, which had been under observation from its commencement, there had never been any jaundice, ascites was present in moderate amount, and the liver, which at one time nearly filled the abdomen, was much enlarged at the time of death. The surface of the organ was smooth, and on section the liver tissue was stained yellow, and surrounded by tracts of gray fibrous tissue. The arrangement of the fibrous new growth was multilobular and interlobular, but the liver cells were proliferating and fatty, and there were numerous biliary canaliculi round the margins of the acini.

This case illustrated the inexactness of the views of the French school, which attempted to divide cirrhosis into two types—common and biliary cirrhosis—in which the latter form was characterized clinically by enlargement of the liver, early jaundice, and absence of ascites; and histologically by the new growth being unilobular and intralobular, the liver cells proliferating, and, most of all, by the numerous newly formed biliary canaliculi. This case conformed in all respects to the type of common cirrhosis, with the exception that the liver was enlarged, that the liver cells were proliferating, and the biliary canaliculi were numerous. It, therefore, shared the characteristics of both the so-called types, which are creations of the imagination, not pathological realities.—*Birmingham Medical Review*.

OPERATIVE OPENING OF PULMONARY CAVITIES.—Before the late International Medical Congress, Dr. E. Bull (Christiana), in a paper on this subject, laid down the following propositions:

1. Abscesses of the lung, which can be diagnosed with certainty, and are so situated that they can be opened through the

chest-wall, should be treated in the same way as pleural empyema.

2. The condition is the same with regard to limited gangrene of the lung. If several gangrenous foci exist, each one must be treated separately.

3. Echinococci, and 4. Foreign bodies in the lung, are to be treated in a similar manner.

5. In bronchiectasis the formation of a pulmonary fistula is indicated only when the accumulation of stagnant matter in large cavities essentially contributes to the deterioration of the patient's condition.

6. In rare cases of tuberculosis, where a large cavity is the predominating condition, the cavity may be laid open with a view of improving the condition of the patient.

7. The operative puncture of a pulmonary fistula is justifiable as a palliative measure.

8. In cases where diagnosis cannot be arrived at, exploratory puncture is certainly of much value; positive as well as negative results may be derived from it.

9. Adhesions of the layers of the pleura though not to be insisted on as an absolutely necessary preliminary to the opening of pulmonary cavities.

10. Amyloid degeneration is not an absolute contra-indication to a palliative operation.

11. The use of the thermo-cautery is to be recommended both for the opening of cavities, and for the destruction of diseased portions of lung tissue.—*Med. and Surg. Reporter*.

OPENING THE GALL-BLADDER FOR CALCULI.—The current number of the *Independence Belge* mentions a great surgical operation which has just been performed in Brussels by Dr. Langenbusch, of Berlin, who must not, however, be confounded with his eminent fellow citizen, Langenbeck. The subject of this daring and successful proceeding was M. Eugene Anspach, the Deputy Governor of the National Bank of Belgium, who has been for many years suffering from a collection of gall-stones, which have kept him in a state of aggravated suffering (*douleur atroce*), and have latterly defied all measures of relief. M. Langenbusch, summoned specially from Berlin, proposed to lay open the gall-bladder, with antiseptic precautions, admitting, however, that he had only performed this operation four times, and that

but one of these cases recovered. M. Anspach's family and friends were much dismayed at this announcement, and begged that the operation should not be performed. M. Anspach was firm, and reflecting that without it he would not live long, and that in the meantime his life would be worse than death, decided on the operation. Even at this supreme moment the banking mind asserted itself, and M. Anspach remarked, "After all, one in four is twenty-five per cent., and that is a fine dividend." "You have had one recovery already, doctor," he remarked, "and I will be the second," an element of confidence which no doubt had something to say to the result. The operation was performed on the 9th of September, and 125 calculi were extracted from the gall-bladder. M. Anspach suffered a good deal after the proceedings, but is now out of danger and in complete comfort. We trust he will long live to enjoy the reward of his own pluck and of the skill of his surgeon. It is a curious circumstance that this operation has to a certain extent been anticipated here. The late Sir Timothy O'Brien suffered from gall-stones, and the late Sir Dominic Corriگان worked down into the gall-bladder by means of a potash issue, and removed them. Sir T. O'Brien's recovery was complete.—*Medical Record*.

EXTIRPATION OF GOITRE BY MEANS OF THE ELASTIC LIGATURE.—Dr. G. Usiglio (*Gaz. degli Ospitali*, Jan. 16, 1884) reports the case of a patient, æt. 56, who had enlargement of the thyroid due to hyperplasia of the left lobe, in which the enlargement was removed by means of the elastic ligature. The part came away in five days, and the patient recovered easily. Two months previously, in March, 1883, Dr. G. B. Masta had successfully employed the same means for the removal of a pedunculated tumor. DeVecchi and Castelleone have also reported cases. An incision is made in the skin, in which the ligature is placed, the wound being disinfected and the ligature tightened daily.—*The Practitioner*.

ABSORBENT TOW.—Signor Silvio Plevani, Director of the Hospital Frate Bene Fratelli, published in the *Gazzetta degli Ospitali*, of May 28, a paper on "Economical Preparation of some Antiseptic Dressings." He states that tow, which is a very cheap resi-

dual material, can be used for all surgical purposes instead of absorbent cotton, when prepared according to the following directions:

Boil the tow for some time in lye made from wood ashes, or in a ten per cent solution of carbonate of sodium, then wash it repeatedly in water. The tow, thus deprived of grease, is immersed in a ten per cent. solution of chloride of lime, and kept in it some hours, with occasional stirring, until it has become perfectly white. It is then washed thoroughly in pure water, until the liquid squeezed from it is perfectly limpid. Drying and carding complete the process.—*The Lancet*.

MISCELLANY.

THE FIFTH INTERNATIONAL CONGRESS OF HYGIENE.—This Congress met during last month at the Hague, and was extensively attended by representatives of all countries, the French element largely predominating, whilst that from Great Britain was numerically feeble. Taking place as it did in a charming and hospitable city, the actual business of the Congress was agreeably interspersed with recreative elements in the shape of open-air concerts, receptions and dinners, whilst the Sunday excursion to the docks and dykes near Rotterdam was a marvel of organization as well as a triumph of courteous entertainment.

The Congress was officially opened by M. de Beaufort, a prominent member of the Dutch Chamber, in a speech characterized by its hopeful forecast of the future of Hygiene. The scientific disinterestedness of the profession of medicine in the nineteenth century was a point earnestly enunciated and sympathetically received. Thenceforward work began in earnest, the several sections meeting in the mornings, and addresses being delivered in the afternoons by prominent hygienists of various countries. In the first section, which was devoted to general and international hygiene, on the motion of Dr. Crocq, of Brussels, it was agreed to recommend the formation of an International Sanitary Commission for purposes of mutual instruction as to the development of epidemics and the institution of measures to combat them. This led to an energetic debate on cholera and quarantine, Dr. Dutrieux Bey, of Alexandria, affirming his opinion of the

endemic, non-transmissible nature of the former, and the inutility of the latter as practiced by most countries to prevent the spread of cholera. He was, however, overborne, and we regret to say that the section harked back to the *dicta* of the Constantinople Conference respecting quarantine. On a subsequent occasion the doctor from Egypt returned to the fray, submitting to the section a proposition affirming the desirability of substituting limited quarantine in the shape of medical inspection and disinfection. This was supported, it is needless to say, by all the English present, and also by some of the Dutch and Belgians, but was lost by a large majority, consisting chiefly of French and Italians. The compulsory notification of infectious diseases (to be made by the medical attendant to the authority), and compulsory isolation of early cases were recommended by Dr. Tienhoven, of the Hague, but, being strenuously opposed by the French doctors, the motion was lost.

Dr. Corradi, of Pavia, adduced the results of an inquiry into the contagiousness of phthisis, which was very cautiously expressed, the only factor on which he placed much reliance being prolonged cohabitation. Dr. Vallin, of Paris, went much further, not only confessing himself a thorough contagionist, but recommending disinfection of sputa and of bed coverings, disuse of handkerchiefs and substitution of spittoons, and general hygienic and disinfectant measures to be employed by hotels of winter resorts, which places he strongly suspected of fostering the disease. Dr. Philippe, of Rouen, described experiments proving the derivation of cow-pox from human small-pox; Dr. Caro, of Madrid, the precautions taken in Spain to prevent the introduction of yellow fever from the West Indies; whilst Dr. Emmerich, of Munich, described inoculation and cultivation experiments on human and pigeon diphtheria, which appeared to belong more to the domain of pathology than hygiene.

The second section, that of urban and rural sanitation, was taken up with papers on cremation, forest clearance, and pneumatic drainage. This latter was patriotically supported by the Dutch, and indeed the system as at present adopted at Amsterdam is said to work well, but we were pleased to note that our English system of both town and house drainage was excellently described and urgently recom-

mended by Mr. Adolphe Smith, of London, who was supported by Dr. Durand-Claye, of Paris, and some other Frenchmen, though the majority of the latter's compatriots seemed to fight shy of water-drainage, probably, we think, from a want of proper knowledge and appreciation of interception and trapping.

The third section, that of personal hygiene, was taken up with a discussion on food adulteration and the legislation of different countries bearing on it; on the dangers to the nervous system of the strain of modern competitive examinations (upon which the section pronounced with no uncertain sound); whilst Dr. Roth, of London, read an able paper on the preventable nature of blindness, and the physical education of the blind. The prevention of blindness comes well within the scope of hygiene, and we were gratified to find that Dr. Roth's views met with much support.

The work of the fourth section, devoted to the hygiene of occupations, included an able report by Dr. Napias, of Paris, on the protection of workmen and care of the healthiness of labor, and of laborer's houses by the State; special stress was laid on age, length of work, and employment of young wives and mothers. Dr. Ruysch, of Maastricht, read a paper on the international danger of the trade in infectious rags, which gave rise to a lively discussion, in which some of the English members (including Mr. A. Smith) took part. An interesting outbreak of asthma amongst rye-biscuit makers was related by Dr. Verstraeten, of Ghent, and Dr. Layet, of Bordeaux, summed up in a striking paper the *pros* and *cons* of Malthusianism.

The fifth section (Demography) was employed on the discussion of elaborate papers by Kummer of Berne, Bertillon of Paris, and Boeckh, of Berlin; the latter showed a new mode of estimating the mortality from the various causes of death, insisting on the necessity of taking into account the age at death from the particular cause.

The address of Dr. Rochard, of Paris, on August 22. treated of the economic value of human life, and was as brilliantly eloquent as it was profoundly instructive; the orator's official position in the French Admiralty enabled him to bring forward a vast array of statistics and calculations which demonstrated the increased value to a community of a lowered general death rate or

a raised mean age at death. Dr. Cohn, of Breslau, gave an interesting account of the lighting of schools, and showed a photometer designed by Weber. Dr. Marey, of Paris, delivered an admirable lecture on human locomotion, showing how it can be quantitatively estimated. Dr. Finkelburg, of Bonn, gave a long summary of recent progress in the germ theory of disease. Professor Corfield, of London, ably sustained the reputation of British Hygiene by his learned address of August 26. Taking a historical survey of the science from the earliest times, he showed how the ancient Egyptians and Hebrews practised its maxims, and quoted Hippocrates as a witness to its appreciation by the Greeks. The elaborate drainage of ancient Rome, as described by Frontinus, was then explained, and the varied vicissitudes of the science traced through the superstition of the Dark Ages to the appearance of Jenner and Howard, and the labors of Chadwick, Farr and Simon. As proof of the efficacy of hygienic measures, Dr. Corfield described the gradual diminution of the death rate of his own district during the last decade; and gave an instructive account of the examination of teachers which had been recently inaugurated by the Science and Art Department. M. Trelat's address on house temperature was disappointing, and opposed to English ideas of ventilation. Mme. Bovell-Sturge, of Nice, gave an admirable address on the modes of educating orphan children, strongly advocating cottage homes. On the last day, Dr. Crosq of Brussels, spoke on the subject of drinking-water, with special reference to its contamination by leaden pipes and cisterns, and by inorganic substances generally.

The closing oration, congratulating the Congress on the important and useful work it had accomplished, was then delivered. Vienna is appointed as the seat of Congress of 1886, and we trust that British science will be more amply represented on that occasion.—*Medical Press.*

OVER-PRESSURE IN ELEMENTARY SCHOOLS.—Much attention has been called during recent years to the injurious consequences of over-pressure in elementary schools, and the subject has been viewed from different standpoints by different investigators. We are informed by one set of observers that the system is all right and works no injury to school children, while other observers

claim that physiological laws are violated which cannot fail to work disastrous consequences.

Quite recently this subject has been agitated in England by a report made by Dr. Crichton Browne. Dr. Browne began his investigations with the belief that the indiscriminate brain forcing which he had seen in middle and high class schools extended into the elementary schools also. The evidences of over-pressure met with in his investigations are:

1. Detention in school after hours, which the teacher assured him was necessary that the requirements of the inspector might be complied with.
2. Home lessons.
3. The testimony of the teachers themselves, who firmly believed in the existence of over-pressure.
4. The condition of the children. Dr. Browne observed that backward children suffered most. These children seem to become more stupid and to lose in general intelligence what they gain in mere technical knowledge.

Dr. Browne divides backward children into three classes, the dull, the starved and the delicate. All of these were expected to go through the same amount of work, and make the same progress as those who are healthy.

Dr. Browne points out that over-pressure has its origin in great measure in the examination system, and this arose from a system of payment by results, which were partial and not final results, which could not be known under many years.

Dr. Browne attributes numerous evils to this system of over-pressure. Insanity is steadily increasing from this cause, and suicide was instanced as coinciding with the modern extension of education. Diseases of the brain and nervous system, such as hydrocephalus and cephalitis, were more clearly manifested as some of the evils of over-pressure.

The history of headache among children subjected to educational over-pressure was carefully investigated. Forty-six per cent. of the children professed to suffer from them habitually. It was further observed in a considerable majority of cases that the headache occurred in the afternoon, and was generally frontal.

The question of sleeplessness, somnambulism and somniloquency were inquired into, and these symptoms were found to exist in

a considerable proportion and to be more or less directly associated with over-pressure in school.

Dr. Browne contrasted the condition of the children in some schools with those of other schools to show their advantages and disadvantages from a physical standpoint, and as illustrations of the effects of over-pressure.

Dr. Browne has indicated in his report the dangers which those who have charge of our educational system should guard against. It is evident that public schools should be placed under the supervision of intelligent and observing men, and it would be better if part of every school board were medical men.

The results of over-pressure are far reaching and affect society in many directions. Too much care cannot be given to the development of the children who must soon become the citizens of our country.—*Maryland Med. Journal*.

EXTRACT OF GOSSYPIUM. — Dr. W. C. Bellamy, in the *Southern Medical Record* (August), says that the inertness of the extract of the cotton plant is due to the fact that the commercial extract is prepared from the dry roots, whereas the virtues only reside in the green root. Some of the extracts in the market have the proper color, but only very faintly the proper odor.

Translations.

A CASE OF DOUBLE ANEURISM OF THE COMMON CAROTID ARTERIES CURED BY LIGATING BOTH ARTERIES.—Dr. Riegner reports the following case on account of rarity in the first place and the fact that the operation has never been made before for the cure of double aneurisms: L., merchant, aged 54, previously always healthy, consulted me in 1881 for the relief of a pulsating tumor on the left side of the neck, which had appeared during the past six weeks. The tumor was growing rapidly. It could not be attributed to an injury nor specific taint. It had all the pathognomonic signs of an aneurism. When the artery was compressed between the two heads of the sterno-cleido muscle the growth, which was about the size of an egg, became very much smaller, pulsation and bruit ceased entirely. Carotid on the opposite side presented no abnormalities at

that time; radial pulse was synchronous on both sides. The pulse of the left temporal artery was somewhat tardy when compared with the opposite side. Digital compression was ordered made for four or five hours for four consecutive days, the patient was put on a low diet, with iodide of potash internally and an ice-bag on the tumor. The growth diminished in size but the patient was compelled to make a journey, during which time it rapidly increased in size again to such an extent as to make pressure on the trachea and oesophagus, causing difficulty in deglutition and phonation.

September 21, the common carotid was ligated according to Burns. Two strong catgut ligatures were put on about one centimeter apart, the artery not divided between. The growth disappeared and ceased to pulsate. Marked cyanosis of the face set in which always disappeared in the latter part of the day. Pupils were the same on both sides, nor were there any untoward symptoms whatever on the part of the brain. The wound was dressed with the permanent antiseptic dressing and a decalcined bone drainage tube. There was no reaction and the dysphagia and hoarseness soon disappeared. When the first dressing was changed, thirteen days after the operation, the wound was found to be perfectly healed; the sac was about the size of a small coin, flat, solid, without any pulsation, and in the period of two weeks more all signs of a growth had disappeared. In the lower third of the neck an artery, about the size of the radial, quite superficial, developed rapidly, which undoubtedly was the collateral branch. The pulsation of the external maxillary and temporal on the left side had ceased entirely. In the course of a year the patient consulted me again for a heavy feeling in the right side of the neck. The carotid was pulsating abnormally strong, otherwise there were no abnormal organs. One-half year later a tumor about the size of a pigeon egg had developed in the region where pain was formerly complained of. During my absence the patient was treated at Vienna with ergotin injections, but with no results. The condition of the growth remained stationary until April, when it again increased rapidly in size and I was once more consulted and found an aneurism on the right side, eight and one-half centimetres long and seven

centimetres broad. The sack crowded the trachea to one side and moved up and down with it during the act of deglutition, as though there were adhesions existing between the two structures. The patient was quite cyanotic and very much depressed. Compression of the carotid caused a cessation of the pulsation in the sac, but, in the course of a few seconds, the patient complained of dizziness and extreme cyanosis, but finally the pressure from an ice-bag was tolerated for five minutes.

April 5th, the right common carotid was ligated, the artery was somewhat displaced and the sternal end of the cleido-muscles had to be severed. The artery was so much affected that only two and one-half centimetres of the lower portion was healthy. It was ligated in this portion with No. 3 sublimate catgut in two different places, but the vessel was not severed between the ligatures for fear that they would slip. Pulsation in the sac ceased at once but it did not collapse. The pupils, at first narrowly contracted, soon dilated ad maximum and finally the right pupil contracted somewhat again, leaving a difference between the two. Dangerous cyanosis set in, but in the course of twenty minutes it passed off again. The dressing consisted, as before, of the immovable antiseptic wood wool. When the patient recovered from the anæsthetic he did not complain of any brain symptoms, the radial pulse was full at 75 per minute.

On the following day transient attacks of delirium set in, with some dizziness and some paralysis of mobility of the left arm, but this soon disappeared. Difficulty of deglutition and the tetanic condition of the inferior maxillary gradually became easier.

April 10th the bandage was changed and on examination of the tumor it was found to be only one-half the original size, quite solid and pulseless. The wound had healed by first intention. The right temporal and external maxillary did not pulsate, while the left artery pulsated regularly. From this time on the growth diminished rapidly in size, the thyrocervicalis formed the collateral circulation and was about the size of the radial artery. The patient was dismissed as cured on the 23d of April.

A few months later the patient was presented before the Medical Association and in the place of the aneurism only a little solid lump the size of a bean could be felt.

There were no bad symptoms and the patient followed his business as usual. **

OIL OF CLOVES TO REMOVE THE ANTI-PATHY AGAINST CHLOROFORM. — (From *Memorabilien*.)—Not at all unfrequently patients are met with who have an aversion against the odor of chloroform to such an extent that it cannot be administered to them with any degree of satisfaction. The addition of some of the corrective etheral oils seldom acts satisfactorily. The best remedy, in universal use in England at present, namely, the addition of a little sulphuric ether and etheral oil of cloves to the chloroform. Nussbaum employs this mixture. The odor is agreeable to most of the patients. Nussbaum places a great deal of stress on the ability of being able to narcotize a patient well, therefore his saying: "It is more difficult to narcotize well than to operate well." Of the 150 cases tabulated by Krod of death from chloroform narcosis a large number occurred during the stage of excitation, for which the physician in every instance should be made responsible, while if death should occur during tolerance he cannot be held accountable. * *

SUBLIMATE INTOXICATION FOLLOWING AN OPERATION ON THE VAGINA AND RECTUM. Boeckelman, of Breslau, reports (*Wiener Med. Wochenschrift*) a case of sublimate intoxication following an operation on the rectum made by Fritsch. The operation required one and one-half hours, during which time the parts were irrigated by a solution of sublimate (one per cent.), altogether about ten liters of the liquid was consumed. On the third day after the operation the temperature run up to 40.2° C.; thinking the cause an absorption of toxic matter from the wound, it was washed with a sublimate solution. During the sixth day the patient continually complained of burning pains in the mouth, shooting pain in the ears and an increased salivary secretion. The gums were very much reddened, swollen and bled quite readily. The tongue was heavily coated, reddened and sensitive to the touch along the edges. The sublimate solution was now discontinued and in its stead a two per cent. solution of carbolic acid was employed. Six days later the symptoms of mercurialism disappeared and in the course of a few more days the patient was discharged as

cured. Boeckelman attributes the toxic symptoms to the direct absorption through the mucous membrane, since the absorptive capacity of the rectal mucous membrane is much greater than when other tissues are moistened with the same drug. He is not in favor of discarding sublimate, because its disinfecting properties are far superior to any other remedy and its drawbacks are comparatively few. * *

IS THE EXTIRPATION OF THE THYROID GLAND A PHYSIOLOGICALLY ALLOWABLE OPERATION? — Dr. G. Zesas of Glarus, Switzerland, has made thirteen experiments upon dogs and cats with reference to this question, in eight experiments removing both the thyroid and the spleen, in five the thyroid alone, and arrives at the following conclusions:

First. The thyroid gland is a blood-producing organ and an apparatus intended for the regulation of the cerebral circulation.

Second. A failure of the spleen to perform its function may be compensated for by the thyroid.

Third. The spleen may assume the office of the thyroid in the formation of blood, but it cannot fill its place as a regulator of the cerebral circulation.

Fourth. The removal of the spleen and the thyroid is a fatal procedure.

He further compares the results of his experiments with the results of clinical experience and finds that his conclusions are thereby confirmed.

Kocher, after the removal of the thyroid, in advanced cases of cretinism, observed what he terms "cachexia strumiprivo," the leading symptoms of which were a deficiency of white blood-corpuscles, vertigo, head-ache, cramps, impairment of mental energy and forgetfulness. These the author considers symptoms of impaired blood-formation, and diminished nutrition of the brain. From these facts, he holds that the removal of the thyroid is physiologically unjustifiable. — *V. Langenbeck, Arch. XXX. 2. — D. Med. Zeit., Sept. 15, 1884. J.M.F.*

OXALIC ACID AND THE OXALATES IN MEDICINE. — Dr. Pouley (*Le Concours Medical. 16, 17, 18, 1883*), has employed oxalic acid and the oxalates in various forms of disease, since they were so highly recommended for the treatment of peritonitis in 1853. As a result of this experience he

confirms the statement of Orfila, that oxalic acid in dilute solution acts solely on the nervous system, and that it has no corrosive action; but that under certain circumstances, even in weak solution, it may prove poisonous. There is, however, one remark with which he does not agree, viz: "the more dilute the oxalic acid, the stronger its action."

The author believes that the oxalates act especially upon the medulla oblongata and the vagus. Its action on the distribution of the latter, namely, the pharynx, the larynx, bronchi, lungs, heart and stomach, he studied in affections of these organs. He usually employed the following solution:

R. Acid Oxalic,	i. 5,	(gr. xxiiij.)
Infus. Thece,	135.	(℥ iv.)
Syr. Aurantii Cort.	45.	(℥ ij.)

M. S. A tablespoonful every hour until relief is obtained.

With this he treats with perfect satisfaction, angina; croup, even in cases where asphyxia threatens; laryngitis; tracheo-bronchitis; pulmonary emphysema; capillary bronchitis, the vomiting of pregnancy; acute gastro-enteritis, strangulated hernia and typhoid fever. — *Deutsche Medizin. Zeitung, Sept. 4, 1884. J.M.F.*

THE INFLUENCE OF TOBACCO-SMOKE ON THE HUMAN AND LOWER ORGANISMS. — From a large number of experiments upon men and lower animals, Zulinski (*Prz. lek. No. 1. u. ff. 1884*), arrives at the following conclusions:

1. Tobacco-smoke, even in very small quantity, acts as a strong poison upon lower animals.

2. Unless taken in very large quantity, its evil effects upon the human system are scarcely to be compared to its action upon animals.

3. The toxic action of tobacco-smoke does not depend solely upon the nicotine, for the smoke freed from it is still poisonous, although in a less degree.

4. The other toxic principle of the smoke is colidin, a body having alkaloidal properties.

5. In addition to these, the smoke contains other ingredients which very speedily exhibit a poisonous action on the lower animals; e. g., carbonic-oxide and prussic acid.

The author has also made a quantitative estimate of the toxic powers of different grades of tobacco, as well as of the evils pertaining to the different methods of smok-

ing. The most injurious method is cigar-smoking; then come cigarettes; next the pipe, and least of all, the water-pipe. The difference in the qualities of tobacco is not so great as would probably be theoretically supposed, although the quantity of nicotine in the different specimens varies to a great degree. Finally, the author comes to the conclusion that the pernicious effects of tobacco-smoking depend not upon the kind of tobacco consumed, but upon the method of its consumption.—*St. Petersb. Medizin. Wochenschr.*, Sept. 20, 1884. J. M. F.

THE EFFECT OF EXTIRPATION OF THE THYROID GLAND.—In consequence of the recent publications regarding the effect of extirpation of the thyroid gland, Professor Schiff calls attention (*Arch. f. exp. Path. und Pharm.* Bd. 18, p. 25), to the fact that he reported, as long ago as the years 1856 and 1857, similar observations which he had himself made. Since then he has repeated these experiments, and from the effects which he has seen produced by the operation, especially upon the motor, sensory and vaso-motor apparatus, effects which were often appreciated with great difficulty, he arrives at the conclusion that the function of the thyroid is closely associated with the nutrition of the central nervous system. It might further be very naturally supposed that it produces a substance which, in the blood-current, plays a very important part in the nutrition of the centres. By this the author does not, however, wish to exclude other hypotheses.—*Deutsche Med. Zeitung*, Sept. 4, 1884. J. M. F.

Bibliography.

ATLAS OF SURGICAL ANATOMY. (1)

This is a reproduction of Henke's atlas of topographical anatomy. There are eighty-one full page plates. The character of the plates can be better explained by copying a section from the table of contents:

Plate XI, fig. 1. Pterygorid muscles and structures about the inferior maxilla.

1. Henke's Atlas of Surgical Anatomy. A series of plates illustrating the application of anatomy to medicine and surgery. Translated and edited by W. A. Rothacker, M. D., Pathologist to Cincinnati Hospital, Lecturer on Pathological Anatomy in Miami Medical College. Cincinnati: A. Wilde & Co., Publishers.

Fig. 2. Superficial dissection of the neck and the region of the inferior maxilla. In the plates the different anatomical parts are connected with dotted lines with their names in plain letters.

The atlas truly supplies a want, and supplies it well.

By its aid the student can sooner and more thoroughly gain a thorough knowledge of anatomy; the surgeon can rapidly refresh his knowledge in reference to any particular region; the physician can easily recognize the relations of the viscera to the external parts, and see the direct source of the blood and nerve supply.

Dr. Rothacker has done the work in his usual thorough manner, and he has been well seconded by his liberal publishers. The mechanical part of the work has been beautifully executed, the binding is good, and the plates and type clear and pleasing.

It is a good book for every physician and student to keep on his office table.

DISEASES OF THE HEART. (2)

This is the March volume of Wood's Library of Standard Medical Authors."

The work treats of cardiac topography, diseases of the heart and its membranes (including affections of the large thoracic vessels and secondary changes in the different organs) and treatment.

The author's style is concise and rather inclined to be dogmatic. For example he says in the first chapter, "next to the pelvis the pericardial sac is the least movable region in the human body," and consequently "it is generally stated that the diaphragm is lowered during inspiration. This is a mistake."

The chapters on the physiological action of the heart are specially good, giving the latest researches on the subject.

The sphygmographic tracings are mostly after Marey, although the excellence of Dr. Keyt's instrument is illustrated in a case of retardation of the pulse in aortic stenosis. It is hardly to be expected that American physicians would receive much attention in a work by a Parisian physician, yet there is no doubt that the tracings of Dr. Keyt are more valuable than the large majority of those illustrated in this work.

2. Diagnosis and Treatment of Diseases of Heart. By Constantin Paul, Member of the Academy of Medicine, Physician to the Lariboisiere Hospital. Translated from the French. New York: William Wood & Co. 1884.

This work is specially valuable for its discussions of the etiology of the different diseases and the natural sequellæ resulting from such pathological conditions.

Before entering upon the discussion of special treatment, the physiological actions of digitalis, bromide of potash, veratrine and convallaria maialis are discussed.

The work, as a whole, can be commended.

A TREATISE ON PHYSIOLOGY AND HYGIENE. (7)

We need say but little here concerning this work. It is not intended for the use of students of medicine, and for such it would be entirely too incomplete. But it is admirably adapted to the use of the general reader. The subjects are treated in as plain language as possible and in an animated style that adds greatly to its interest. Perhaps the best evidence of the value of the work is to be found in the fact that it is already the adopted text book in the public schools of all the leading cities of the United States, including Cincinnati. In the present edition, the text has been carefully revised, several new illustrations have been introduced and considerable new material has been added on the influence of alcohol and narcotics on health, to comply, no doubt, with the law that has recently become "the rage" in a number of states. The illustrations are all excellent, and several colored plates add greatly to the attractiveness of the book.

J. M. F.

A COMPENDIUM OF ORGANIC AND MEDICAL CHEMISTRY. (8)

This little volume is number 10 of the series of "Quiz Compendis" and is gotten up in uniformity with the preceding nine. The object and the value of such books has been already sufficiently discus-

3. For Educational Institutions and General Readers. Fully illustrated. By Joseph C. Hutchison, M. D., L. L. D., Ex-president of the New York Pathological Society, Ex-vice President of the New York Academy of Medicine, Surgeon to the Brooklyn City Hospital, Late President of the Medical Society of the State of New York, etc., etc. New York: Clark & Maynard. 1884.

4. Including Urinalysis and the Examination of Water and Food. By Henry Leffmann, M. D., D. D. S., Professor of Chemistry and Metallurgy in the Pennsylvania College of Dental Surgery, and of Clinical Chemistry and Hygiene in the Philadelphia Polyclinic. Philadelphia: P. Blackiston, Son & Co. 1884.

sed. They have their advantages and their proper place. For the student desiring to review the lectures upon any subject, they are convenient, brief and much more legible than notes taken in the lecture room. This volume contains 120 pages of small type.

J. M. F.

TRANSACTIONS OF THE MEDICAL AND CHIRURGICAL FACULTY OF THE STATE OF MARYLAND. (9)

The Medical and Chirurgical Faculty of the State of Maryland is one of the oldest medical societies in this country, and judging from the volume of Transactions before us, we would add, one of the most active. Four days were occupied in the session, and in them some very excellent communications were made, but our space will not permit us to give them the notice their merit would deserve.

The annual address was delivered by Dr. William Pepper, of Philadelphia; his subject was "Force vs. Work: Some Practical Remarks on Dietetics in Disease."

J. M. F.

BRAIN EXHAUSTION. (10)

The study of cerebral dynamics has been the natural outgrowth of a more advanced knowledge of the dynamics of the muscular system. Its difficulties are, however, infinitely greater and the result much less certain, but in importance it is beyond comparison. It is only within comparatively recent years that any attention has been given to the subject, and the authors who have written upon it are few. Chief among them are Drs. Theophilus Thompson, Forbes Winslow and C. B. Radcliffe of London, Drs. F. E. Anstie, G. M. Schweig, D. Mack, J. Weir Mitchell, Hammond and the late G. M. Beard, to whom the author makes repeated reference.

In the book before us, we are presented with a train of symptoms which the author says are due to the exhaustion of brain power.

5. At its Eighty-sixth Annual Session, held at Baltimore, Md., April, 1884. Baltimore: Journal Publishing Company.

6. With some preliminary considerations on Cerebral Dynamics. By J. Leonard Corning, M. D., Formerly assistant physician to the Hudson River State Hospital for the Insane; Fellow of the New York Academy of Medicine; Member of the Medical Society of the county of New York, of the Neurological Society of the New York Medico-Legal Society, and of the Society of Medical Jurisprudence, etc. New York: D. Appleton & Co., 1884.

er. As far as the symptoms are concerned, there is nothing in them to distinguish the affection from a number of other nervous disorders. An author writing on hysteria, hypochondriasis or certain forms of epilepsy would refer the reader to the same train of phenomena; but when these follow conditions which would necessarily predispose the intellect to fatigue, there is every reason to suppose them due to an exhaustion of brain energy. Among the causes the author refers to the errors in our present system of education, in which the aim seems to be to get over a fixed amount of study rather than to acquire any definite amount of useful knowledge, and to the severe strain upon the minds of business men, never greater than at the present time. The treatment, hygienic and medicinal, is fully discussed.

The style of composition is clear and as positive as the vagueness of the subject will permit, probably a little more so. The treatise is intended to be practical, and the author has avoided to a great extent all purely speculative theories. Just what future investigation will show the standing of the work to be, it is impossible to say; but until more positive knowledge of cerebral dynamics is gained, the tendency of all such works is to direct greater attention to the subject and thus prepare the way for a more thorough study of it in the future.

J. M. F.

DIPHTHERIA, CROUP, ETC. (1)

So numerous and so varied are the methods that have been proposed for the treatment of diphtheria that the profession will not be surprised to see another monograph. Neither will the announcement of another specific occasion much enthusiasm, since so many remedies have been known to be followed by such remarkable results in this disease. The author of the present monograph fully appreciated this, and in his preface, writes a suitable salutation for each class of readers, disposing in a most bombastic style of that "too numerous class of pompous, opinionated and bigoted men, or

7. Or the Membraneous Diseases; Their Nature, History, Cause, and Treatment; with a review of the prevailing theories and practice of the Medical Profession. Also a delineation of the new chloral hydrate method of treating the same, its superior success, and its title to be considered a specific. By C. B. Galeptin M. D. New York: J. H. Vail & Co., 1884. Cincinnati, Rob't Clarke & Co. Price, \$1.50.

doctors" who shall receive his announcement with derision.

Whatever may be the value of his treatment, the author has accumulated a large amount of information on the history of diphtheria and its treatment from the earliest records of the disease to the present time. In discussing the etiology of the affection, he presents with fairness the opinions of a number of authors, and gives full prominence to the germ theory. He, however, dissents from it, doubting whether a true case of diphtheria was ever produced by inoculation, or whether germs take any part in the production of the sequellæ, contenting himself with the term "toxæmia." Chapters follow on the climatic and other forms of propagation, symptoms, diagnosis, pathology and treatment. In the latter chapter the author reviews the different methods that have been employed for a number of years and then describes the chloral treatment. This remedy he uses both by internal administration and locally in the form of spray or vapor. Internally it is given in pretty full doses repeated at as frequent intervals as the somnolence it produces will justify. We are told that since his adoption of the chloral treatment, the author has treated upwards of four hundred cases of well marked diphtheria with a mortality of less than two per cent. Croup is discussed in a separate chapter of about twenty pages, and a chapter on Tracheotomy, by Dr. R. A. Vance, is inserted.

Twenty-eight formulæ are appended, and in them we find directions for using many other remedies that are considered by some authors of themselves sufficient for the cure of diphtheria. How much, then, are we to depend upon chloral, and how much upon these?

J. M. F.

THE "A. C. E." ANÆSTHETIC MIXTURE.

—The anæsthetic mixture now frequently employed by physicians under the abbreviated name of "A. C. E." is composed of one part alcohol, two parts chloroform, and three parts ether, all by measure. Considering the specific gravities of the component liquids, more than one-half of the mixture, by weight, consists of chloroform.

Dr. Wilson, of Louisville, has used with success the inner membrane of the hen's egg for skin-grafting. One egg will supply an indefinite number of grafts.—*Columbus Medical Journal*.

Society Reports.

CINCINNATI MEDICAL SOCIETY.

Meeting of September 30, 1884.

B. STANTON, M.D., W. H. M'REYNOLDS, M.D.,
President. Secretary.

DR. JOS. EICHBERG read the following translation.

Subnormal Temperature in Cases of Paralysis.
By Professor Hitzig and S. C. Reinhard.

These articles, treating of a common subject, have recently been sent to the editor of the *Berliner Klinische Wochenschrift*, and he has wisely caused them to appear in the same number of his journal (No. 34 of the present year), thereby giving his readers command of a large number of cases and presenting the views of experienced observers of known repute. The topic is one of very great interest in connection with the physiology of animal heat, all the more so, as it goes to establish the intimate relation of the central nervous system with this important bodily function, a relation that was inferred immediately after the discovery of the vaso-motor influence of the sympathetic, though its mechanism is still obscure, and the topography of the regulating heat-center a problem for the skill of future physiologists.

The contribution of Hitzig, so favorably known through his studies in cerebral localization, calls attention to the fact, that, until recently, the most diverse opinions existed as to the abnormal temperature of progressive paralysis, and that this diversity extended to the observed clinical data as well; and he aims to establish, first of all, his facts. These briefly stated, are firstly, that the subjects of progressive paralysis experience marked disturbances of their animal heat as they do of all other functions, under the control of the nervous system; secondly, that the paralytic attacks frequently are attended by a sudden and considerable rise of temperature, of brief duration and not explained by disease of any other organs; thirdly, that the general bodily temperature may occasionally fall very considerably below the normal, without our being able to find any satisfactory cause.

Patients affected with progressive paralysis, exceptionally too, those afflicted with other forms of insanity, present at times an

unheard-of fall of temperature, if we exclude cases of poisoning, which is to be explained by their general decrepitude, great restlessness, tendency to throw off their bed and body clothing, to soil the body by involuntary discharges, or by accompanying diarrhoea or suppuration.

In such cases it was easy to believe, that the regulating heat center was not able to compensate for the additional loss of heat occasioned by these various causes, an opinion entertained by Löwenhardt, Hitzig and Zenker. But there were cases in which this theory failed to account for the phenomena; cases in point were cited by Ulrich, Hebold and Krömer, the last author relating the history of a female patient, thirty-six years of age, whose temperature for the five days preceding final dissolution, varied between 87.8° and 89.8° and at the time of death was 78.4° .

An examination of all the cases thus far reported leads Hitzig to the conclusion that an *excessive lowering of temperature*, disregarding now all slight variations from the normal standard, occurs most frequently in cases of progressive paralysis and in those forms of insanity, which are clinically allied with it, that is to say senile psychoses with, or even without, discoverable areas of softening. Should it occur in other diseases we usually find some cause that occasioned increased loss of heat and general disturbance of nutrition, phenomena that may be present in the first named class of cases but are not then essential factors.

Secondly, we find, not infrequently, that there is a very peculiar connection with the paralytic attacks from which these patients suffer, observed as early as 1868, by Westphal and Güntz, and recently again discussed by Hebold and Krömer. Krömer believes the attacks to be attended by increase of temperature, the degree of which is in direct proportion to the intensity of the attack. Preceding the attack the temperature is sub-normal, and in the first four minutes after the attack it falls still more. The observations of Hitzig lead him to a different opinion, for many paroxysms are unaccompanied by elevation of temperature, nor is a fall, preceding the attack, the universal rule. More frequently he finds the rise of temperature during the paroxysm without any previous fall.

1. In cases presenting sub-normal temperature, particularly if the process be acute, there are astonishing changes of tem-

perature without cramps or paralytic attacks, and Hitzig cites a case in point.

2. The fall of temperature may precede the attack for several hours or several days, and thus in a measure, announce its occurrence. Notwithstanding many rapid variations, the temperature does not attain the normal, or rise above it during the attack, of which an illustration is given in the case of a woman forty-nine years old, whose temperature was normal on the evening before the attack, the next morning it was 89.6° , the attack occurred at two o'clock, and death resulted after repeated convulsions without the thermometer's again rising to 90° .

A foot note states that all measurements of temperature were taken with the thermometer in the rectum or vagina, and, when not taken by the physician himself, at least under his own personal supervision. The autopsy of this patient revealed moderate thickening of the pia mater, atrophy of the brain, gray degeneration of nearly all the cranial nerves, hypertrophy of the left ventricle, dilatation of the right, and oedema of the lungs.

3. The fall of temperature precedes the paralytic attack for a shorter or longer interval, during the attack the temperature rises, with varying fluctuations above the normal, and then either remains at this height, or returns to the normal, or again falls below it.

The four cases cited by the author in his paper are, without doubt, as curious as they are inexplicable by any known hypothesis. Some have endeavored to find the reason for these subnormal temperatures in an excessive loss of heat, others, amongst them Hitzig himself, have presumed upon the existence of a paralysis of the heat-regulating center. Hitzig frankly admits that the material available at present does not permit any final decision.

Anatomical data which might be considered as furnishing a proper explanation, do not exist, but the author thinks that cardiac weakness is an important factor in many cases, as shown by the diminished frequency of the pulse which in many cases sank to forty or fifty per minute, and where the autopsy revealed a fatty heart. Knowing this, we may imagine that heat production in the various organs diminishes owing to the slowing of the circulation, so that the body can not compensate for its ordinary loss, much less so for any increase above

the normal; and it is possible that the deficient supply of an abnormally cool arterial blood to the brain may be the cause of the convulsive attack. However it would not be possible to deny that the diminished cardiac power was rather a result than the cause of the decline in temperature, and we cannot omit consideration of the possible role of the heat-regulating centers; for we know, from the rise in temperature after apoplexy, the epileptic state, and paralytic attacks, that there is some influence exerted by the diseased cerebrum upon the vaso-motor centers of the brain and cord; the mechanism, however, of these complicated processes is still unknown and must be determined by future experiments.

Reinhard was induced to give attention to the subject from having two cases under his personal observation in one of which the temperature fell to the unprecedented figure of 72.68° , the thermometer being well inserted into the rectum and remaining there for fully fifteen minutes. He introduces his cases by running over the literature of marked subnormal temperatures, it being noteworthy, that in very many cases, the influence of great external cold and some internal depressing cause had combined to bring about the marked fall in bodily heat; thus, exposure of a poorly clad body to the severity of a cold winter night, while the individual is in a drunken stupor was found to be one of the most fruitful causes.

The first case of R. was that of a patient affected with progressive paralysis, aged thirty-six, who had suffered from syphilis ten years before. The cerebral disease was of a year's duration and presented nothing remarkable. There were no marked paralyses, no signs of complications from involvement of the cord, the general condition was good. In the early part of September, 1883, a rapidly increasing maniacal excitement set in, accompanied by sleeplessness, muscular restlessness, etc., so that permanent isolation became necessary. Despite the administration of various narcotics this condition persisted until the 20th of November. The patient emaciated, though his appetite and digestion seemingly remained unimpaired. In the night from the 20th to the 21st of November, the patient gradually became quiet, the nurse finding him resting on his couch as though in deep sleep. Shortly after six in the morning it was noticed for the first time

that he was in a marked state of collapse. He was immediately transferred to a heated bed, warming pans applied to the feet, rubbed with hot cloths, etc. The thermometer showed a rectal temperature of 72.68° F. There was complete loss of consciousness and sensibility, immobility, a feeling of icy coldness on the surface, with blueish discoloration of the skin, particularly over the extremities, inability to swallow, absence of the cutaneous reflex, tendon reflexes reduced to a minimum, the apex beat of the heart not to be seen or felt, heart sounds scarcely audible and occurring at very long intervals, respiration slow, superficial and irregular, occasionally showing a pause after several hurried efforts. The patient slowly recovered after the use of additional stimulation. At noon the temperature was 84.77 , at 4 o'clock p. m., 88.67 , at 7 p. m., 97.67 , and the following morning the temperature in the axilla was 98.67 . Patient was again able to swallow passably well, breathed normally, occasionally moved one or other arm, though he remained unconscious and slept continuously. Toward noon violent convulsions of the right side set in, which continued until evening, the temperature rapidly rising to 103.57 . The following day the patient died from double pneumonia. The autopsy revealed a brain of average weight, with the usual changes incident to progressive paralysis, hyperæmia of the pia mater and cerebrum.

The second case was that of a man aged forty, subject to progressive paralysis, who had formerly been an habitual drinker. When admitted in January, 1883, he presented amongst other symptoms great indolence, forgetfulness, weakness of judgment, slight increase of the patellar reflex and a certain spasmodic gait.

Toward the end of December violent maniacal excitement set in and continued with few interruptions to the day of his death. During this mania the signs of cerebral compression gradually developed, such as myosis, slowing of the pulse, etc.; and in Feb'y the evening temperature rose, without appreciable cause, from two to two and a half degrees. Like the first patient, this man also emaciated, developed pallor of the face, and dryness of the lips, in spite of the ingestion of an adequate amount of food. On the 3rd of March of the current year the patient quieted down about noon, dined alone, and then lay down upon his

bed. At five o'clock the attendant found him apparently lifeless, with glazed eyes, and rigid, cold extremities. The physician saw the patient after three-quarters of an hour, when he had already been placed in a heated bed, warming pans applied to the feet, and wrapped in woolen blankets. Pulse was not to be felt, and the heart sounds could be heard only at long intervals and were then very faint. The respiration was seven to eight per. minute, arrhythmic, irregular, the inspiration relatively deeper, the expiration more superficial, after every deep inspiration the heart sounds became clearer. An estimate of the heart's beats would not have given more than twenty-six to thirty per minute. There was complete unconsciousness, sluggishness of the pupils, abolition of cutaneous sensibility, though reflexes were manifested after a considerable period of latency upon tickling the nostril, cornea, or external auditory canal. The limbs were rigid though they could be moved passively; there was no spontaneous movement. Skin was dry and cold: hands and feet livid; the temperature in the axilla (after fifteen minutes), was 71.67 , and in the rectum (after keeping the thermometer ten minutes), 73.10 F. At seven and a half o'clock, p. m., the rectal temperature had fallen to 72.67 , showing that all efforts at resuscitation had failed. The patient died a few minutes prior to 8.30 p. m., the temperature just after death being 71.47 . The post mortem examination revealed in addition to the usual changes, progressive paralysis, hyperostosis, cranii, slight internal pachymeningitis of the entire base of the brain, grayish discoloration of the posterior parts of the columns of goll in the cervical portion, greyish discoloration of the outer border of a lateral column lower down, no macroscopic alterations in lumbar enlargements; no changes were noted in any other organs.

In looking over the literature of subnormal temperature we find a number of causes assigned, such as final defervescence at the close of some acute febrile disease, remissions and intermissions of various acute and chronic diseases, unusual debility or exhaustion of the organism as consequent upon hemorrhage, prolonged wasting disease, or poisoning from alcohol, veratria, or infection as from diphtheria and cholera, or finally owing to cooling from without.

Before considering the cause of the coldness of the body, R. takes up the respira-

tion. The slowing of its frequency is a very striking symptom, which has been noticed by many observers and coincides with a similar change in the cardiac pulsations.

Somnolence or lethargy is a very noticeable change, particularly when contrasted with the previous state of excitement of the patient. Many observers have called attention to this, but it is a point still in dispute, whether or no this somnolence disappears with a return of the normal temperature. Those who hold the former view will not find themselves borne out in all particulars, as seen in the first case reported by Reinhard where the temperature reached and even passed the normal without any return of consciousness.

As favoring the occurrence of rapid collapse the author mentions the following conditions: small volume of body, and poorly developed panniculus adiposus, the latter being of some importance as shown by Liebermeister, who found that corpulent subjects could remain in the cold bath from three to four times longer than lean patients. The author is inclined to regard the loss from this source as of secondary importance and would find a prime cause in a paralysis of the central heat regulating apparatus, this paralysis corresponding in all particulars with the nervous paralysis supervening upon prolonged faradization. In both cases the prolonged excitation is followed by a complete abolition of function in the part, and the comparison is the more appropriate since a stage of maniacal excitement preceded the sudden fall of temperature in nearly all the recorded cases. The rapid development of collapse is also explained by this hypothesis since the over-strained centers, after being stimulated to their fullest capacity, suddenly lose all control of the heat-regulating function. As pointed out by Loewenhardt previous intemperate habits and old age favor the occurrence of such collapse.

The theory of heat regulation is thus far largely hypothetical and unsupported by positive facts, and it has not yet been determined whether there are proper thermic centers, or whether the vaso-motors control this function, or whether it is not to be partially ascribed to both. Hitherto the vaso-motors have been looked upon as especially concerned in the loss of heat, which is increased by dilatation and diminished by contraction of the cutaneous, sub-cutaneous and superficial muscular branches.

In the face of the evidence furnished by the well-known experiments of Naunyn and Quincke, of Goltz, Tscheschichin, Schreiber, Budge, Nothnagel, Eulenburg, and Landois, who all accept the existence of thermic centers, our author still believes himself entitled to hold the contrary opinion, considering the evidence advanced as not sufficient to sustain this position, and continues to think that the vaso-motors play the principal role. He further believes it possible that this vaso-motor thermic center might not be localized in one part of the cerebro-spinal axis, but so distributed that the brain should contain those centers which increase the tone of the blood-vessels, the spinal cord, those that diminish it, and the pons and medulla oblongata centers of both kinds in about equal amount, and that the cerebral centers increasing vessel tone are in relation with the vessels of the surface of the body, while those increasing it from the spinal cord are distributed to the interior; the reverse of these conditions obtaining for the centers which lower the vessel tone. (This theory requires too many preliminary hypotheses, none of which has as yet been supported, and will certainly not find acceptance until more fully substantiated.)

The subject of subnormal temperatures is not brought to the notice of the practicing physician as prominently as the departure from the normal standard in the opposite direction, and hence has not yet received the same amount of study. With all the labor thus far devoted to elucidating the pathology of fever, taken per se, we are still very far from occupying any satisfactory position with reference to this manifestation of disease, and it is not, therefore, surprising to find our knowledge of unusually low temperatures rather limited.

DISCUSSION.

DR. MACKENZIE thought there was some impropriety in using the term paralysis in regard to the heat making power, when we don't know the location of the centers which control this power, or even whether such centers exist. We do not know whether the animal heat is regulated by the vaso-motor or by another special system of nerves. We don't know whether it is generated in the skin or in some of the glandular structures.

DR. EICHBERG replied, there must be some nerve center regulating heat in animals, otherwise how could a uniform temperature be preserved under the varying

external conditions to which the body is exposed. The term paralysis as used in the article means that peculiar state, which may be compared to a loss of control, so that the body is exposed to about the same conditions as obtained in animals of varying temperature, or cold blooded animals as improperly called.

There certainly must be some control of the nervous system over the regulation of heat other than that which manifests itself through the vaso-motor system. In the experiments of Neumeyer and Quincke, the medulla oblongata was separated from the pons varoli, causing paralysis of the cutaneous vaso-motor nerves, and dilatation of the vessels. Notwithstanding the opportunity thus offered for increased cooling of the blood, the temperature of the body actually rose several degrees. The term paralysis, strictly speaking, may not be applicable, nor is it the wish of the authors of the paper presented to advocate the views they have advanced. They are themselves careful to point out the impossibility of drawing general conclusions from the limited material at hand, and merely give their theoretical deductions for the purpose of stimulating farther study.

DR. JOHN DAVIS thought the number of cases reported in the article too small to base any general conclusions upon, but that they were of great value suggestively and should encourage investigation in the same direction. We do not yet know sufficiently well in what kind of cases to look for depression of temperature. The unreliability and want of uniformity of the clinical thermometers used by general practitioners is a very serious obstacle to the satisfactory investigation of this subject. The speaker then mentioned a case of scarlatina, which he had at the time under treatment, in which he was using carbolic acid in small doses as a heat reducing and antiseptic agent. He believed the internal use of carbolic acid and citrate of iron brought down the temperature, and the external application of glycerine diminished the itching and irritation of the skin, and consequently the nervous excitement.

DR. EICHBERG said the thermometers used by the authors of the paper presented, were tested by comparison with instruments of known accuracy. Tartrate of chinoline, a drug similar to carbolic acid, has recently come into use in scarlatina. It is used in the German hospitals as a specific in cases

with throat complications. The febrile symptoms diminish, membranes disappear and the whole aspect of the case changes in a very short time.

It is questionable whether the weak heart in cholera is not, as in progressive paralysis, a symptom of involvement of the nervous system rather than a cause of the decline in temperature.

The affection of the nervous system in cholera may be explained by the influence of the poison causing the disease, while in progressive paralysis we have actual anatomical lesions of the central nervous system, discoverable by the naked eye and the microscope.

DR. JOHN DAVIS said he was aware of what the gentleman stated, but would continue the use of carbolic acid because he was satisfied that it produced all the effect needed. It reduces the temperature and ameliorates all the symptoms. It reduces the temperature directly as an antipyretic and indirectly by destroying the poison in the blood.

DR. MARSH said much might be attributed to the local effect of carbolic acid and tartrate of chinoline on the membranes in diphtheria and scarlatina. He had used a solution of tartrate of chinoline in his own case as a gargle, when he had follicular tonsillitis. It was prescribed by Dr. Eichberg, and quickly reduced the temperature and removed the membranes. The drug has a pungent and somewhat astringent taste, something like carbolic acid. Its local effect is very similar to that of nitrate of silver, which seems to relieve the constitutional as well as local symptoms.

DR. JOHN DAVIS said, it is true that in local cases local treatment is all that is required, but in constitutional cases more is needed. Britonau at first believed that the disease was local in all those cases which he described as diphtheria, but in a later article he expressed a very different opinion.

DR. EICHBERG said it was as a local remedy that tartrate of chinoline was first used in cases of diphtheria independent of scarlatina, and yielded such satisfactory results that it came to be administered internally for the latter affection. The theory formerly was that exudative diseases of the pharynx were purely local, and therefore were best relieved by local measures only. It was this theory which led to the application of caustics, particularly of nitrate of silver in

substance to the diphtheritic sore throat, a practice now happily condemned by all.

It may be possible that a certain amount of constitutional symptoms may be caused by the absorption of decomposing material from the throat, and some of the results, after the administration of chinoline, would seem to support such a view. We would not be justified, however, in relying upon its local use alone in the more severe cases.

AMERICAN GYNECOLOGICAL SOCIETY.

[CONTINUED.]

Held at the Palmer House, Chicago, September 30, October 1 and 2, 1884.

Reported by Liston H. Montgomery.

Session of Third day, Thursday, Oct. 2, 1884.

Association called to order at 10 A.M. Dr. Albert H. Smith presided.

The following gentlemen were elected members by invitation: Drs. Ralph E. Starkweather, A. H. Burr and George H. Randall, all of Chicago.

Dr. Wm. H. Byford was called to the chair while the president delivered his address on

• The Present Aspects of the Puerperal Diseases,

Which proved to be a scholarly production, somewhat of an encyclopedial character, many parts of which the essayist was obliged to omit.

He alluded to the pathology of puerperal septicæmia, which is of organic or heterogeneous character, the latter being more grave, and may be communicated by the doctor, the woman's dressings, etc., as, for instance, the doctor's hands may not have been sufficiently cleansed after attending a previous patient, or a napkin may be used a second time, although but slightly discolored by a little mucus, but from which the whole pelvic tissue may become involved, and where it is difficult for them to urinate, the folds of the broad ligament and peritoneum become involved, resulting in phlegmonous peritonitis, yet the uterus may be free from involvement. The mammary secretion may be all right, the cervix and intrauterine tissues become œdematous; the venous trunks, lymphatics, tubes and ovaries each and all may be violently attacked, resulting in a most pernicious cellulitis; thrombi form and soften, resulting in abscesses, indeed, the whole organism may

become so involved that many other results will follow. A robust, vigorous woman may receive a large amount of this poisonous material, from the effects of which her temperature and pulse may rise to such a degree that death may result in thirty hours, with no local lesion. It is a post partum poisoning.

The essayist hurriedly passed on to the history and development of originitic cases, and here came in the pangermic hypothesis for its share of criticism. A chemical element producing the disease was the same form of disease as traumatic septicæmia.

The views and positions of the various authors upon the subject were then carefully reviewed, Pasteur and his study of micro organisms; the germ theory of puerperal fever; the literature of the French; the doctrine De Elaria promulgated in 1880, and also the more recent one of Dr. Paul Bauer, that the microbe is necessary, and if there is no microbe there is no puerperal fever. The micrococci produce pus, they pass into the lochia and blood, and it is said two forms of spheroidal microbes enter the veins and lymphatics, and from their swarming, thrombi form; there may be masses of these microbes, and pelvic or general peritonitis may ensue, or the case may be one of mild septicæmia.

Considerable space was devoted to the description of cylindrical bacteria, which are rarely found in the blood before death, or if so, it is at the approach of death. It has not as yet, however, been proven when they are present that they are the cause of the disease, but are only epiphenomenon. To establish this relation they must be present before any symptoms of the disease have appeared. The pus-producing microbe, before putrefaction and pyæmic changes have taken place, can not live in the presence of oxygen. The airobia or arobia are harmless. Those that are anarobic produce the change. How long before they enter the tissues does this change occur? was alluded to, also that oxidation and carbon are the source of heat, and if microbes are the causes of the fever, quoting from Pasteur, no germ can enter the healthy body. Billoth says they can, but that they are not always morbid, Dr. Barker coincides in this.

The writer then asked the question, do germs form from dry, healthy air? But why comment? It is not necessary to find microbes in a foetid lochia, and again, at

mospheric germs will get into lungs that are healthy, and also into the intestine of a healthy subject. They multiply, it is said, at the rate of 100,000 a minute.

We have dwelt sufficiently on the manner in which the author deals with the nature, symptoms and causes of the different varieties of micrococci, in producing puerperal fever, etc., and pass on hurriedly to what we consider the best part of this most creditable thesis — the prophylaxis and treatment, of which a few general ideas can be given without fear of lucidity, and which can not fail to elicit the attention of our readers.

A woman confined in a hospital should be there as short a time before labor as is prudent. Her nails should be carefully trimmed and scrupulous cleanliness enjoined. The vulva should be bathed in a 1 to 1000 solution of bichloride of mercury, or with Labarach solution (chlorinated soda) 1 part to 8. A woman may poison herself unless these rules are carried out, on her part as well as ours. It is not necessary to use the spray after the delivery. The physician's hands must always be disinfected in a solution of bichloride, 1 part to 1000, or even stronger, as 1 part to 250. He should examine her as little as possible. No intrauterine injections should be given unless absolutely necessary. It may be necessary to make the os patulous. If a syringe be used, air need not enter the veins if it is properly applied. A chill may come on, but not once in a hundred times is it significant.

The essayist showed a number of curved glass tubes of different sizes that he had ordered made. They could easily be inserted into the uterus. A piece of ordinary gum tubing is run through it. In the sides of the glass tube were a number of holes for the return current of the solution to be injected. By this means the fundus and interior of the uterus can be washed out. The piece of gum tubing must of course be renewed next time it is necessary to repeat the injection. The glass can be easily cleaned and disinfected. A Davidson or fountain syringe is best to use.

Regarding the use of carbolic acid, Dr. Smith thought he once had a case of poisoning from it, and since then he has used some other remedy.

On motion of Dr. Reamy, a vote of thanks was tendered to the retiring president for his able and interesting address.

The eleventh paper, *Some Remarks on the Occipito-posterior Position in Vertex Labors*, with an analysis of thirty-eight cases, instead of thirty-five, as enumerated on the card, was read by Dr. Edward W. Sawyer, of Chicago. The paper was illustrated by a life-sized drawing, the same being a copy of the twenty-first plate in Schmelle's work on obstetrics, which the writer regarded as a perfect cut. He said: Great disparity of opinion prevails as to the frequency of this position in vertex labors. A number of authors were quoted and figures presented relative to it. In one instance it was stated to have occurred 203 times in 19,777 cases of labor. In another it occurred 3 times in 149 cases. Out of a series of 183 cases of vertex presentation in his practice he has recorded 38 cases of occipito-posterior position, the last one occurring on the Sunday evening previous. Twenty-six of these occurred in primipara. In two rotation of the child's head occurred by the efforts of nature; in four he rotated the head with his hand in the vagina.

Lusk was quoted as saying that rotation occurs spontaneously at certain stages, that we need not here describe. Madame La Chapelle makes a similar statement.

In the last case of the writer's, which occurred a few evenings previously, a dead foetus was born; among his other cases, the mother died in two instances, and also the foetus in one case, where the mother died of exhaustion. In the first case the child was born alive four hours previous to the death of the mother, of cardiac thrombosis.

Regarding this position some general rules were given by the author: Do not allow the presentation to remain longer than two hours after the escape of the amniotic fluid, for the contractions of the uterus diminish in force and frequency, the woman becomes exhausted and the life of the foetus jeopardized. Administer ergot to the mother, and introduce the entire hand into the vagina, clear through until the superciliary ridges and eyes of the child are felt; continue the administration of ether, with the entire hand in the vagina, until the shoulders can be reached, for the head and shoulders can then be far more easily turned than can be done with the finger tips to the head. The forceps are generally brought into use to complete the labor.

Two kinds of forceps were then de-

scribed minutely, as was also the condition of the elongated, pointed cervix.

A few pages in conclusion were devoted to classification, number and variety of vertex presentations, while the author announced that what he especially wished to submit for discussion was the proposition to introduce the whole hand for rotation and diagnosis.

DISCUSSION.

Dr. RICHARDSON, of Boston, stated that cases of this kind are often neglected, and both the child and the mother endangered. He differed from the writer in regard to the frequency of this form of presentation. If they are neglected they will grow from bad to worse. If the child is in the normal position, the occiput will rotate forward, not at the supra pelvic strait but on the pelvic floor. If the head is obstructed or caught on the pelvic strait, when properly placed afterward it will rotate forward; sometimes it may be necessary to apply the forceps wrongly as it were; this is an easy way to flex the head, and it will also remedy the extension.

Dr. REAMY, of Cincinnati, fully agrees with several points contained in the paper, but with several others he disagreed. In the first place, regarding the frequency of this position as being one in five or even less, his own experience differed, and he thought it occurred not oftener than once in 180 to 200 cases. In the second place, the writer stated that there were but few instances where the vertex would rotate forward spontaneously, when in reality this does occur, and in the main without serious drawback.

Relative to the drawing illustrating the paper, speaker cared not who its original author was, it was a monstrosity. He had watched in more than twenty cases this form of presentation, and dissents from the views of the writer that spontaneous rotation will not come about.

When should we interfere in these cases? If dilatation of the os is sufficient and a physician has made the diagnosis, do so without delay. He desired to particularly emphasize this point. He was an advocate of not waiting for nature, and he also uses the forceps reversed, grasps the head while the woman is under chloroform, and works with precision when she has no pain.

Dr. Sawyer, on the contrary, does this only during contractions of the uterus. Carry the head up as far as you can, and

then withdraw the instruments and apply the other way. The hand is better, if properly cleansed, and if it could be applied to the child's head.

Another criticism: English obstetricians place the woman on her left side, which the writer also practices. We want her on her back.

Again regarding the plate used by the author to illustrate the paper on numerous points, the duties of which, as pictured in its contour, arc of circle, contractions of uterus, etc., which he has shown, is an act of supererogation in the manner the uterus is shown to perform more duty than is necessary for it to do.

Regarding the forceps to be used it is a fact that we can not devise any improvement on the ordinary instrument.

Dr. JOSEPH T. JOHNSON of Washington, did not hear the paper read, but he expressed his concurrence of opinion in the views expressed by Dr. Reamy, namely, that in the absence of pain we should make efforts at traction. The particular kind of instrument is perhaps not of so much importance as its proper manipulation. The hand, perhaps, is the best instrument.

Dr. HOWARD, of Baltimore, uses the Tarnier forceps. We need not make any attempt to rotate the head forward, it will do so spontaneously. In the past few months he has seen three cases of this form of presentation. We should use the forceps as a lever. He agreed with the last speaker that more depended on the manner of manipulation than on the form of instrument used. We are apt to use the one with which we have been most successful in previous cases.

Dr. ENGLEMAN, St. Louis.—It seemed to him difficult for the Association to adopt the instrument recommended by the author of the paper, as it is not the instrument but the hand that manipulates it. Therefore, any instrument will do.

Dr. JACKSON had nothing to add, but said the society would be glad to hear the President's views.

Dr. SMITH pointed out numerous defects in the diagram, which he said was an irresponsible one as there was no provision for the other organs of the mother, besides, it is made to represent the child's head as being too greatly flexed against the posterior wall of the uterus. This flexion may last from eighteen hours to two days.—Never introduce forceps into the uterus.

He was surprised at the frequency of the occurrence of this position as given by the writer, it was contrary to his own experience. In 1254 cases of occipito posterior presentations, 17 were born without the head being rotated. Some of these cases feel like a bag of mush, and in multiparous cases young doctors have often waited for hours for the head to rotate and advance, and perhaps retiring to get some lunch, and have been surprised to find on their return that the baby had been suddenly born with the occiput under the pubes. Regarding the etiology, nothing is known.

A good way to deliver them is to place the patient in the knee-elbow position, so as to form an inclined plane toward the fundus; and as the dorsum of the child is posterior the child will gravitate inferiorly. When it descends we should grasp the head and retain it there, applying the forceps to the sides of the child's head.

DR. RICHARDSON arose to explain that he did not wish to be understood as saying that he delivered the child with the forceps reversed. Extraction of the head should be made with the heels of the forceps turned posteriorly.

DR. SAWYER was gratified to hear the general discussion his paper had brought out. Regarding the plate he had exhibited, he acknowledged that there was no room to show the other organs of the pelvis, which, however was not his fault, and he was not responsible for it.

DR. SMITH said that Dr. Sawyer was responsible for producing it here before the Association.

DR. SAWYER supposed Schmellie had omitted the other organs from the plate for fear gynecologists would forget the position of the child in studying them, and branch off on the study of the passage of gall-stones, intussusception, diarrhoea, etc. [Laughter.] Of course he completed the delivery with the "sled runner" edge of the forceps posteriorly.

The Society adjourned at 3 P.M.

Afternoon Session of Third day.

The Association was called to order by President Smith, who stated that the first business in order, though not on the programme, was the induction of the President elect into office, which was accordingly done by his introducing Dr. Wm. T. Howard, of Baltimore, as president of the Association.

Dr. Howard, on taking the chair stated that he thanked his confreres of the American Gynecological Society for the high honor which had come so unexpectedly upon him; the duties of his office he promised to faithfully perform, hoping that the members would endeavor to enhance the usefulness of the American Gynecological Society, and that they would all be present at the next meeting.

DR. REAMY offered the following resolution, which was promptly seconded;

That the thanks of the Association be hereby tendered to the retiring president for the able and impartial manner in which he has discharged his duties, and also for the sacrifices he has made, the dangers he has encountered in leaving home to be present with us when he has been in ill health and coming a long way.

DR. HOWARD was rejoiced to state that his first official act would be to announce the passage of this resolution, which unanimously prevailed.

The twelfth paper was then announced:
A Rare and Fatal form of Sepsis without Symptoms,

which was read by Dr. Geo. J. Englemann of St Louis, the principal portions of which are as follows:

By this is meant a peculiar form of sepsis, puzzling eminent surgeons, having insidious symptoms, where the diagnosis is obscure, but the prognosis fatal, of which he has had several cases.

The first was a violent case of this kind, where the pulse and temperature were not much altered, so that for some time the true character of the difficulty was not apparent. Indeed, there was an absence of heat and pain in the case. The difficulty seemed harmless, and it was by intuition and not medical skill that he arrived at a diagnosis.

These cases are lingering and fatal. It is important to observe the features and symptoms of this disease. It is, apparently harmless, with no pain, no fever, the case apparently favorable. Text books and teachers do not call attention to this class of cases, apparently because it is difficult to describe, for symptoms are absolutely wanting, and quite at variance with septic poisoning.

The author recited numerous portions of his paper, so extracts from it, as they are presented here, are given at the risk of being tautological.

As previously stated, there is no elevation of temperature, no depression of the vital powers of life, no profuse sweating, no intestinal or bronchial catarrh, temperature may be elevated one-half to one degree. In puerperal septicæmia this negative assemblage of symptoms is never seen, tho' one or two symptoms may be wanting. Unimpeachable authorities state that the intensity of the symptoms vary according to the amount of poison absorbed. Where there is elevation of temperature it indicates that poison has been absorbed, yet this class of cases are contrary to Dr. Barker's views on pyæmia and septic poisoning.

Another class of cases the author alluded to was where this form of sepsis occurred in children having diphtheria.

In every case where he has been called in consultation his diagnosis was denied. In one instance the existence of septicæmia was denied until the last day before death occurred.

The author then pictured the case of an old man who had this disease, who had an enlarged prostate. He had traveled some distance on a railroad train, by which an impetus was given the disease, which began about as follows. A little discomfort was felt first at the prostate, temperature was slightly elevated. He consulted Prof Langenbeck, and he was catheterized and his water examined twice a day for some time. It was clear, and there was no pain or tenderness about the bladder. The writer could see that the patient was slowly sinking. His anxiety regarding his friend's condition, however, was ridiculed. The writer urged that the temperature be taken daily, which was done for some time, when without warning the patient became comatose and died in a few hours, having thus gone on for weeks with no symptoms of the disease.

At the post mortem examination, one kidney was found in a sac of pus, an abscess the size of a bean was found in the prostate, and one ureter lay in a sac of pus, all of which had produced no acceleration of the pulse nor elevation of temperature. A little diarrhœa occurred, but it was not septic.

Another case the author recited was that of a child who died of septic poisoning as a sequelæ of diphtheria, and is one of several he has seen which were all alike. The child was sick for a few days, having had slight fever and a slight diphtheritic deposit

on the uvula, and had apparently recovered when he saw it playing on the bed. There was no sort of fever, but he felt that the child was doomed to die. He stated his opinion to the mother and warned her. The diphtheritic deposit had entirely disappeared, temperature about normal, fair pulse, and the child was playful, but it gradually failed each day, so slowly as to be scarcely perceptible; there were no symptoms apparent. There was a slight chill and fever a few days before death. For weeks the poison had been lurking in the child's system, and the disease was progressive.

Another instance of this form of septic poisoning was a case of puerperal septicæmia in a healthy young primipara aged 23. The child was delivered with some difficulty, as it was a breech presentation, and the placenta was also with difficulty removed. The perineum was lacerated. Antiseptic carbolic solutions to the uterus and vagina were used, and iodoform was sprinkled over the laceration. Next morning the pulse was 101, temperature 98° F.; at evening, pulse 140, temperature 103½° F. There was pain in the abdomen, etc., but these symptoms soon subsided and her temperature fell to 98½°, 98⅓° and 98½° with no symptoms of a comatose condition. She felt well, but her abdomen was immensely distended. The pulse then varied from 124 to 128 for a few days. Her appetite improved, she ate quite heartily. Digestion was good, and she felt well; suddenly a diarrhœa set in, the fecal matter passed was extremely offensive, she became delirious and died in a few hours. The abdomen was so much swollen that the undertaker could not get the body into the coffin selected. He opened the abdomen and a bucket of pus was discharged, after which the swelling subsided.

The author also gave the details of the following case of septicæmia that was for three or four months unnoticed by able physicians, because during that length of time there was scarcely a symptom, and because there was a fibroid tumor the size of a hens egg in the uterus. She was a virgin, 56 years of age. Two or three times during three months she had gushes of foul black shreds of tissue. At one time she passed a pint of offensive fluid. A lady friend thought it was some form of menstruation. On the 18th of last May the speaker saw her. She had a pulse of 80,

and temperature of 99° F. He advised the use of antiseptic washes in the uterine cavity twice a day, also iodoform sprinkled on the parts, and quinine in large doses internally. Her condition gradually changed, and showed (to his eye) that she had septicæmia. The color of her face proved the previous existence of it. The discharge became purulent, yet was perfectly clean and pure. Temperature was normal, and by the first of June the discharge ceased and cleansing the uterine cavity was stopped. Antiseptics, such as salicylic acid and quinine were continued. Next day the disease broke forth again, she had a chill, followed by high fever, and abdominal pain. Her local condition continued to be fair, scarcely any pus was discharged. Her pulse ran up to 120, and her temperature to 104° F., and both then subsided. Then she continued in a remarkable way, her pulse ranging from 104 down to 90, and temperature from 98° to 97° F., no signs of coma, her sleep was excellent; gradually she seemed to fail. There was no tenderness over her abdomen, and no cerebral or bronchial symptoms present. Body grew colder, temperature fell to $96\frac{1}{2}^{\circ}$ in rectum. Pulse gradually rose as temperature fell. During the last four or five days temperature was $95\frac{1}{4}^{\circ}$.

Dr. J. B. Johnson, the family physician, for the first one or two weeks would not admit that she had any fever. There was no delirium. Diarrhœa set in two or three days before death which was very offensive indeed.

Another case that the author cited varied somewhat from the foregoing, it being one where there was uterine trouble; pelvic cellulitis, etc. Temperature was perhaps half a degree elevated, pulse at times a little rapid. No pain or sensitiveness in the abdominal region, some dryness in the throat, but no fever. But she too sank away.

Our report of these cases is not much abridged from the author's paper, and we have given it special notice on account of the special classification, trusting that it will prove instructive to our readers. The cases reported are certainly deceptive, and practitioners of the highest standing may sometimes be misled and deceived. We quite agree with the writer in the hope that this disease will receive attention, and will be glad to get the views and experience of our oldest and ablest physicians on this rare form of septic disease.

In the discussion of this exceedingly interesting paper, Dr. Richardson, of Boston, stated that he was pleased to hear the subject so fully and adequately described, for text books do not allude to it, or if so, the disease is not treated under a separate head. The speaker could confirm what was said on the pathological appearances, especially that relating to puerperal cases. He also had seen cases which had given him anxiety for four or five days, where the temperature and pulse advanced slightly. They apparently did well *until they died*. A slight diarrhœa was present in all cases. They were cheerful, and supposed they were improving every day. All symptoms except pulse and temperature augured an auspicious convalescence. Their friends also thought they were getting along very nicely, yet he noticed that they were not getting stronger, but in fact were "sliding away," and their condition would not be realized until they were beyond our reach.

Dr. MYERS, of Ft. Wayne, asked the essayist whether he makes a distinction between septicæmia and pyæmia, and what he means by septic poisoning, as he referred to the presence of pus revealed by autopsies. His attention had recently been called to the subject by a case of pyæmia occurring in his practice. The patient had been injured in a railway collision six months before the close of the full term of gestation. At the time of her accouchement the placenta was adherent so closely, and the difficulty of breaking up the adhesions so great that he feared the result. Eight days after delivery she had a chill, followed by a rapid rise of temperature to 106° . These alternations of chills and high temperature continued until death. In this case all the symptoms were pronounced, there being none of the obscurity that marked the cases reported.

Dr. ENGLEMAN that the symptoms as he enumerated them were present both in pyæmia and septicæmia.

Dr. REAMY had encountered several cases of a similar nature, and would class them as the same form of septic disease. Some of his cases occurred in puerperal women and others did not. There was no pain nor fever, and in some no acceleration of the pulse. In some there was anxiety, in others the countenance betrayed an opposite mental state, and they said they felt extremely well. The symptoms are obscure, as are also the cases in other respects.

Some may have a chill, others, similar in other respects, have no rigors. The only symptoms may be abdominal distention and slight diarrhoea. Some time ago the *New York Medical Journal* gave a description of some forms of puerperal metritis and peritonitis, in which it was shown that there was a purulent deposit in the intestines, all of which were closely allied to each other. These cases are hopeless. The etiology, pathology and treatment remain to be settled.

DR. JOHNSON of Washington could testify that these cases do slip away from us in the manner described, though he had seen some cases with marked symptoms of septicæmia. In one patient, on the ninth day after confinement there were no symptoms to indicate anything serious, but she had no secretion of milk. There was no anxiety of countenance, yet she felt she was going to die. Her pulse was 94, temperature about normal. She did not want anything done for her. She had no pain, and she gently passed away.

In respect to the case of the child which Dr. E. spoke of, he too had seen similar cases in children, where it was announced that they died of paralysis of the heart. He had also had a case of an old gentleman, similar to that of the man dying, spoken of by the writer.

DR. L. H. MONTGOMERY of Chicago said that he once had a case similar in every respect to those just reported, although it occurred to a fleshy, able-bodied man. The autopsy showed the cause of death to be intussusception of the bowel and gangrene. For a month or six weeks previously the patient had been gradually failing. He suffered no pain, complained of nothing, and for weeks was gentle as a lamb. His life went from him like the flickering flame of a lamp when the oil is burned out. A mural abscess and other signs of blood poisoning were discovered at the autopsy. The speaker asked Dr. Engelmann if he did not think this case should be classed in the same category as those he had reported.

DR. ENGELMANN closed the discussion. He was glad others had recited their experience. These cases are always fatal, and in many cases the nature of the trouble is not recognized and the cause of death supposed to be something else. In reply to the question of Dr. Johnson, whether the old gentleman alluded to died of septicæmia or pyæmia, the speaker said he would

class the case as one of pyæmia, just as he would class the others under septicæmia. The result was the same. Remedies may be thoroughly used and have no effect. The form of septicæmia may be very light, so that a diagnosis may not be reached until the last day, when it may be made from the slight diarrhoea which may supervene. The case cited by the last gentleman should certainly be classed under this fatal silent form of sepsis.

On motion the Association adjourned to meet at Washington, D.C., the third Tuesday of September, 1885. The Society then stood adjourned; after which Dr. Sawyer, of Chicago, exhibited a five months fœtus in which the amnion was separated from the placenta. The umbilical cord was attached to the edge of the placenta. The specimen was a perfect and beautiful one, of which but few are in existence.

The following papers were read by title : The Physiognomy of the Vulva as a Sequence of Anal Disease, and the Cause or Sustaining Cause of Uterine Disease, by Dr. Isaac E. Taylor, of New York.

The Early History of the Treatment of Vesico-vaginal Fistule in the United States, and the Statistics of the Several Modes of Operating; by Dr. Nathan Bozeman, of New York.

Periodical Symptoms in Uterine Disease; by Dr. George J. Engelmann, of St. Louis.

Contributions to the Topographical and Sectional Anatomy of the Female Pelvis; by Dr. David Berry Hart, of Edinburg. To be read by Dr. Alexander Skene, of Brooklyn, N. Y.

Fibro-myomata and Fibro-cystic Myomata of the Uterus — with Cases and Specimens; by Dr. Stansberry Sutton, of Pittsburg.

On the Ring of Bandl; by Dr. Wm. T. Lusk, of New York.

NOTES.

No new members were elected.

The A. G. S. has fifty-six active members.

Dr. Frank P. Foster was greatly elated at his visit to the Wonderful City, it being his first visit to the metropolis of the North and West.

Regrets at the hour of bidding adieu were noticeable.

Vive le Doctorem !

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STATE BOARDS OF HEALTH.

STATE MEDICINE.

First Annual Conference of the State Boards of Health, held at St. Louis, Mo., October 13th and 14th, 1884.

What may be regarded as the first conference of the Association of State Boards of Health was commenced Monday afternoon at Liederkrantz Hall, Chouteau avenue. The organization of the association is due to Dr. J. N. McCormick, of Kentucky, and Dr. H. B. Baker, of Michigan, who called a Convention at Washington in May last of the representatives of State Health Boards. Twenty-eight representatives were present. It was decided to form the association, of which Mr. Erastus Brooks, of the State Board of Health of New York, and a well-known sanitarian, was elected President, and Dr. McCormick as Secretary. It was further decided that the annual meetings of the association should be held at the same time and place as the annual Conventions of the American Public Health Association, and in accordance with that decision this year's meeting of the new association is held in St. Louis, where the Public Health Association also holds its annual meeting this week.

There were present at the conference the following gentlemen:

S. C. Johnson and J. T. Reeve, Wisconsin; Chas. Smart, U. S. A., and National Board of Health; P. H. Bryce, Ontario; C. W. Coventon, Dominion of Canada; L. F. Salomon and S. S. Herrick, Louisiana; T. S. Simons, South Carolina; J. L. Carter and R. M. Swearingen, Texas; J. A. Dibrell, Arkansas; C. A. Lindsley, Connecticut; West Virginia, J. E. Reeves; J. B. Lindsley and G. B. Thornton, Tennessee; C. H. Fisher, Rhode Island; Erastus Brooks, New York; E. M. Hunt, New Jersey; J. A. Watson and L. P. Conn, New Hampshire; J. C. Hearne, Missouri; D. W. Hand, W. H. Leonard and C. N. Hewitt, Minnesota; H. B. Baker, Michigan; H. P. Walcott, Massachusetts; W. Reynolds and J. N. McCormack, Indiana and Kentucky; J. H. Rauch, Illinois.

SANITARY PROGRESS.

The Chairman, Mr. Erastus Brooks, in opening the Conference, congratulated the association on the large attendance of delegates, which, he thought, indicated the public interest in the health question. It would be idle for him to repeat anything

which had been said in the past in regard to the importance of the work of the State Boards of Health. He was glad to know that nearly every State in the Union had established their boards, and that the few States and territories which were at present without boards are considering the advisability of establishing them. In the State of New York there are now local health organizations in some 909 of the 1,000 towns in the State. There were also similar organizations in nearly all the 240 villages in the State and in each of the twenty-four large cities.

The minutes of the last meeting at Washington were read and approved, after which Dr. Hewitt, of Red Wing, Minnesota, submitted a number of recommendations for the further and more complete organization of the association which had been suggested by the Minnesota State Board of Health. After a short discussion the recommendations were referred to a committee, which was requested to report at the meeting on Wednesday afternoon.

An invitation from the American Public Health Association to attend the meetings of that body during the present week was extended to the members of the Conference. The invitation was unanimously accepted. It was stated that the Wednesday afternoon session of the American Association would be devoted entirely to the discussion of questions connected with the work of the Conference of the State Boards of Health.

Dr. Rauch, of Springfield, Ill., and Dr. Chas. Smart, of the National Board of Health, had prepared papers on the subject of the prevention of cholera. There was some discussion as to whether the papers should be taken that afternoon or read Wednesday afternoon before the combined meeting of the association of State Boards of Health and the American Public Health Association. The majority of the delegates regarded the question as one peculiarly connected with the Conference of representatives of State boards, and Dr. Rauch and Dr. Smart were called upon to read their papers.

RESPONSIBILITY IN CONTAGION.

Dr. Rauch, at the outset, reminded the conference of the responsibility which rested upon those who were charged with the protection of the public health at the present time. For the past six years—ever since the memorable fever summer of 1878—the

country had been free from any serious and wide spread epidemic disease. Small pox had been successfully combated and its ravages confined to proportions which were insignificant when compared with many other epidemics. Hundreds of thousands of unprotected immigrants were landed in the country during the last few years, but the immigrants' inspection service, inaugurated in 1882, had rendered their incoming comparatively harmless. They had been spared any serious conflict with yellow fever, nor had other diseases prevailed to an unusual extent, as they often did in the absence of an epidemic. On the contrary, the average annual death rate had been low, especially during the last year. That very fact, however, should in itself be a warning to the sanitarian. It meant the survival of large numbers of persons who would have been carried off had the non-epidemic diseases maintained their usual severity. It meant, too, the accumulation of susceptible material ready for the prey of epidemic contagion, whenever such contagion should be introduced under conditions favoring its propagation. For six years sanitary effort and sanitary authority had had no unusual demand made upon them, or, at least, no demand which the public recognized as unusual. But interest in sanitary work must not be allowed to diminish. It was a work of continuous interest, whether cholera came or not, and that if cholera would come it was the duty of sanitarians to assume. It had always come to America when it had been epidemic in Europe. Sooner or later it was sure to come, and they could not tell how soon.

But he maintained as the result of nearly twenty-five years' experience in the practical administration of sanitary matters that cholera was pre-eminently a quarantinable disease and could be excluded from the United States. Whether cholera should be excluded, whether the means and agencies necessary to secure the exclusion should be supplied, were questions which the public must answer in Congress and in the State Legislatures. No single case of cholera, no one ship load of cases had ever yet sufficed to establish a cholera epidemic in the United States.

PERILS OF THE STEERAGE.

It had only been after repeated importations of the contagion in the persons of thousands of immigrants and their infected baggage and household goods that it had

effected a lodgment and had reproduced itself and multiplied into an active epidemic agency. Hence he maintained that the disease was essentially and pre-eminently a quarantinable disease and might be practically excluded from the country. To secure practical exclusion of the disease, in his opinion, several agencies were necessary. First, timely and trustworthy information as to the existence of the disease in countries and at ports having commercial relations with the United States. In the second place a national health organization representing the great national sanitary divisions of the country, endowed with adequate authority and supplied with means commensurate with the duties imposed on it and with power to call upon any other branch of the public service for assistance and co-operation. With some modifications, the present National Board of Health would satisfactorily meet the latter suggestion, but in his judgment its membership should be enlarged so as to more perfectly represent the great national sanitary divisions, and the members should be familiar not alone with the sanitary features of their respective districts, but also identified with their commercial and industrial interests. Under the national health organization the system of refuge stations, perfected by the present National Board of Health, should be extended and perfected. With two or three exceptions at the present time, no port in the United States had adequate facilities for the proper administration of quarantine. Refuge stations should be provided, and pilots should be required to take infected vessels to them. It might also be necessary to prohibit immigration for a time, at least, from infected countries. It was the steerage of the immigrant vessel, with its crowdpotions and other conditions favorable to the development of specific contagion, that had to be feared, and that contingency was one of the most important for which national legislation should be provided next winter. Cholera, even when it had broken out in a district, could be controlled by the adoption and enforcement of the simplest measures. Pure water should be provided, and the houses in which the disease had broken out among the inmates should be promptly taken in charge by the sanitary officers. The patients should be isolated, and their discharges disinfected and buried. Every community ought to be prepared to deal with a cholera outbreak in that way.

NATIONAL CO-OPERATION.

But something more than that was needed for the sanitary defence of the whole country, and for that co-operation and concerted action were necessary. They must devise a plan under which the limited and individual powers of communities and States might supplement each other and act harmoniously for the common welfare. In the absence of a national health organization, with power to act without reference to State lines and with resources to meet every emergency, the best they could do was to form in an organization all of those clothed with sanitary powers—State and municipal—and give effect to the principle that in sanitary matters the interests of one were the interests of all, and that such was his brother's keeper in all that pertained to the prevention of the introduction and spread of epidemic contagion. And further, they should, without loss of time, demand adequate National, State and municipal legislation bearing on the question, and call on Congress to reorganize or rehabilitate the National Board of Health or to provide an efficient substitute endowed with full powers to act in any emergency.

FACTS ABOUT CHOLERA.

Dr. Smart in his paper sets forth the facts on which the National Board of Health based its rules to prevent the introduction of cholera into this country and to prevent its spread in case it did make its appearance. Science and experience, he said, had demonstrated the following facts: That cholera was caused by a specific germ; that the germ must reach the bowels in a living state; that the germ maintained its vitality and toxic properties under many conditions, the most important being in the discharges from the bowels of the sick, in the soiled clothing of the sick, and in the beds they occupied, in the privies and cess pools which received the discharges and in the soil and subsoil waters which became secondarily contaminated; and that the germ might be destroyed with no other interruption to travel and traffic than was needful to determine the likelihood of its presence and to apply the necessary measures for disinfection.

Guided by those principles the National Board of Health had organized a system of preventive measures, and experience had confirmed the board's conviction that they composed the essential sanitary acts necessary to the complete suppres-

sion of cholera. They had prepared instructions for the guidance of American representatives in foreign parts with regard to informing the home Government of outbreaks of cholera and organized an elaborate series of quarantine, precautionary and preventive measures to be adopted in cases of ships arriving in American ports with infected persons on board, and had arranged for the disinfecting of railway cars running from an infected city, and for a thorough system of medical inspection of the passengers prior to starting on a journey from a town in which cholera might exist. Every precaution had been taken by the board to effectively prevent the introduction of the disease at any unguarded point.

PROTECTING THE PORTS.

The discussion which followed the reading of the papers was led off by the Chairman. He said there had been some reflection in the papers on the inefficiency of some of the State Quarantine Boards. So far as it was morally and physically possible to prevent the introduction of cholera into the port of New York everything was being well done at present. The officer who had charge of the matter was a State official and provision was made by the State of New York for diseased persons and convalescent persons—whether suffering from cholera, small pox or ship fever. He thought there had been a thoughtless reflection on a class of public servants who were endeavoring to the best of their ability to prevent the introduction of disease into the country.

Dr. Lindsey, of Tennessee, said the people of his State were looking to the Conference for prompt action in the matter relating to the prevention of cholera. The State Board of Health of Tennessee was empowered to stop all communication with centers in which cases of cholera occurred, and they would do so within twenty-four hours after receiving notice of any case of cholera existing in a city with which they had communication.

Dr. Covernton, who represents the Dominion of Canada in the association, said filth was the gunpowder, and the germ and spark in case of a cholera epidemic. Filth should be kept cleared away by the intervention of the State Boards of Health, and then there would be no pabulum for the germ to work upon if it did come. It was of the utmost importance that there should be perfect accord between the European

Governments and those of Canada and the United States.

At this point in the discussion it was moved that the Conference adjourn. This was agreed to, and it was decided to meet again at 4 o'clock Tuesday afternoon. After appointing a committee on papers, on which the Chairman nominated Drs. Baker, Rauch, Walcott, Bryce and Herrick, the Conference adjourned.

The session of the State Boards of Health Tuesday afternoon was a prolonged one. But when the conference adjourned unanimous conclusions had been reached upon the "Practical Work required for the Prevention of Cholera in this Country." This report adopted embodies the recommendations which will be made to the United States and Canadian Governments and to the country at large. The recommendations were drafted by a committee composed of Henry P. Baker, Secretary of the Michigan Board of Health; H. P. Wolcott, Chairman of the Massachusetts Department; S. S. Herrick, Secretary of the Louisiana Board; Peter H. Bryce, Secretary of the Provincial Board of Ontario; John H. Rauch, Secretary of the Illinois Board. It was not until after a prolonged discussion and the doctors had more than once shown their ability to disagree that this important declaration and appeal was adopted in the following form:

ORIGIN AND DISSEMINATION.

There are three essential factors to the prevalence of cholera in this country as an epidemic: (1) The importation of the disease by means of ships more or less directly from its only place of origin in India; (2) Local unsanitary conditions favorable to the reception and development of the disease; (3) Persons sick with the disease in some of its stages, or things infected by such sick persons, to carry it from place to place. These three factors naturally suggest the methods of combatting the disease, for which there is needed practical work, international, national and interstate, State and local. So far as relates to State and local boards of health, their organization and activities are greater than ever before; but it must be admitted that after cholera has been introduced into a country, inland quarantines are not easily and successfully maintained, although efforts in this direction are then advisable. In view of the threatened introduction of cholera into this country during the coming year, and the

consequent immense waste of life and property values through derangements of commerce, trade and productive industries, it is the sense of this conference that the General Government should maintain such a national health service as shall, by rigid inspection at the port of embarkation, question the freedom from disease and infection of all persons and things from infected districts; and shall secure the surveillance of such persons and things while on shipboard, and, when necessary, detention at quarantine stations on this side for treatment and disinfection.

OFFICIAL INSPECTION.

In view of the present threatening aspect of Asiatic cholera, and the constant danger from other communicable diseases occurring at foreign ports having commercial relations with the United States, we urge upon Congress to provide for the appointment and maintenance at all such foreign ports where cholera, yellow fever, plague, small pox or scarlet fever exist or are liable to exist, of medical officers of health, the same being either accredited consuls or attached to the consulates. The duties of these officers shall be: To give notice, by telegraph when practicable, of the existence or appearance of any of the above named diseases to some constituted authority in this country; to give notice of the departure of any vessel known or suspected to be infected for any port in the United States; and, whenever requested by the master of any vessel about to load or leave for this country, to inspect thoroughly such vessel in all her parts, and also her cargo, her crew and passengers; to use such cleansing and disinfection as he may deem necessary, and to satisfy himself that all persons about to sail are free from dangerous communicable diseases, are not recently from infected places, and are properly protected from small pox, giving to her commander a certificate of the inspection and of all precautionary measures taken. And it shall be the duty of the central authority in this country to transmit promptly intelligence of the existence of the above mentioned diseases at foreign ports and places, and of the departure of dangerous vessels for the United States and Canada, to all State and local health authorities in the country which may be interested in the same.

We further recommend: In case of those foreign ports which have no consular

agents in this country, or no telegraphic communication with this country, and which are liable to transmit pestilence through commercial intercourse, that one or more medical officers be chosen to visit such ports as often as may be deemed necessary by the central health authority in this country, so as to give trustworthy information of the health and sanitary condition of those places.

CANADIAN HEALTH ALLIANCE.

Inasmuch as the Dominion of Canada is equally interested with the United States in protecting itself and the United States from the importation of dangerous diseases, we suggest that Congress take such measures as will bring about concerted action with the Dominion and the British Government by which the consuls of this country or of England at foreign ports shall examine and take such action as they may deem effective, and notify the authorities of such government as has authority over any port to which any ship may sail in the United States or Canada, in order that such government may be in a position to take effective measures against the importation of these diseases. We are gratified that the authorities of the Dominion of Canada and of the Province of Ontario have taken active steps toward protecting the people of Canada and indirectly those of the United States, by the adoption of extensive quarantine regulations. We feel, however, that with respect to those regulations regarding the landing of passengers from the mail steamers along the St. Lawrence, etc., further special regulations for the thorough disinfection of the baggage and effects of all passengers, cabin or steerage, as come from infected ports and places, should be carried out in a manner similar to that recommended by the National Board of Health. Believing that the importation of cholera into this country has usually attended the presence of immigrants from infected countries, we therefore recommend that all such immigrants be prevented from landing at our ports until such time as the danger of the introduction of cholera by them shall have passed.

The inspection and quarantine service inaugurated by the National Board of Health, and set forth in the paper by Dr. Smart before this Conference, but which system is now inoperative for want of an appropriation by Congress, meets with our cordial approval. To enable these pro-

fective measures to be carried out, we recommend that Congress be urged in the strongest terms to legislate on this subject at an early date in its coming session, and to appropriate such funds as may be needful. The expenses incident to the work which has to be performed at foreign ports, and the establishment of refuge stations at points on our coast for the detention and treatment of infected vessels arriving from foreign ports, should undoubtedly be borne by the National Government, and not by individual States or municipalities, for the benefits accruing therefrom are general and not restricted to localities, although some ports and cities on the coast may have a more immediate interest in the matter than others in the interior. It is probable, however, that this national protective work may not be sufficient.

LOCAL SAFEGUARDS.

It will undoubtedly delay and lessen the chances of invasion, but it may not prevent invasion; the poison of the disease is subtle, and may effect an entrance into the country at some unguarded point. The funds necessary to the stamping out of the disease in a particular locality, and to the prevention of its spread to other localities might in some instances be borne by the municipality or State affected; but should the disease occur in a locality which has failed or is unable to make provision for its occurrence, its spread to other cities and States would be imminent. The want of means at the infected point would be disastrous to many others. Congress has recognized the necessity for aid to State and local boards of health under similar conditions in the case of yellow fever. In 1879 the sum of \$500,000 was appropriated and placed at the disposal of the National Board of Health; and the records show that of this sum \$160,000 was employed in combating the epidemic of that year. We therefore recommend that the influence of this Conference be used with the view of having appropriated by the National legislature the sum of \$500,000, to be used, or as much thereof as may be needful, in case of a cholera invasion, in stamping out the disease from the infected localities, and in preventing its spread from State to State.

The removal of local unsanitary conditions favorable to the development of cholera is the especial work of State and local boards of health. Much has been

done already in some States, but much remains which should receive immediate attention. Where it can be done, State sanitary inspectors should be appointed to visit all towns and cities specially liable to the disease, to counsel with the local authorities as to the best methods of prevention. This work should be vigorously prosecuted before it reaches our shores.

ADVICE TO CITIZENS.

The cause of cholera is contained in the discharges from persons affected by the disease, or in things infected by such discharges. Should the disease reach our shores, the first case, and after this the first case which reaches any given community, should be strictly isolated; all infective material from these and from any subsequent cases should be destroyed in such manner as to stamp out the disease. Intelligent sanitary precautions beforehand and scientific disinfection and treatment in the presence of the disease should take the place of the necessary cruelties of a panic. In case any city or town is infected, the same principles of isolation should in general be applied to the city as to the infected individual. Intercourse with other cities and places should be under sanitary supervision, substantially as set forth in the rules and regulations of the National Board of Health, respecting the inspection of travelers, disinfection of effects, vehicles, etc.

Health officers and inspectors appointed by State or provincial boards of health should, in addition to other sanitary work, see that the localities have set apart, erected, or planned to be set apart or erected, structures which shall possess the sanitary requirements of an isolation hospital. But as regards all necessary work by local boards of health, most State and provincial boards of health have printed and issued documents which give ample instructions.

Your committee recommend that when this Conference adjourns it is to meet in Washington, D.C., the second Tuesday in December next, and that the secretary of this Conference be directed to invite the attendance at that time of the quarantine officers of the principal cities in the United States and Canada, and that all delegates to that meeting be prepared to report the sanitary status of their State or locality, and what steps have been taken to improve the same and to prevent the introduction of disease.

Before the report was submitted by the committee Dr. C. W. Chancellor, of Maryland, read a paper which he afterward said he might have kept in his pocket had he known what the committee was going to recommend. He took the ground that cholera was not contagious, and the representatives of the State Boards elevated their eyebrows when he said that there was hardly an instance of more stupendous folly than the attempt to prevent the spread of cholera by a system of sanitary cordons. Quarantine was not only useless, but it was a positive injury, because it prompted a false feeling of security and the neglect of other precautions. The history of cholera since 1817, when it first became known as such, having its origin in India, established, first, that sanitary cordons were unavailing, and, secondly, that persons were afflicted with the disease who had not come in contact with it in any manner of contagion. If cholera was in the air, it broke out in communities where there had been no introduction of the disease, but it was noticed that it gained its first hold and raged with greatest virulence where non-sanitary conditions prevailed. Dr. Chancellor cited a great array of instances in support of his theory. Measures of isolation and of non-communication were futile he declared. But though quarantine can not be depended upon, the powers of government, national, State and municipal, must be exerted to disarm the disease when it does come. The only practical work was to remedy the conditions favorable to the disease and let the germs take care of themselves. The best plan, he thought, was to establish without delay intelligent forces of sanitary inspectors. Ventilation and drainage must receive careful attention from all classes. Temperance and abstinence from unhealthy food and from intoxicating liquors must be urged upon the people. Warning should be given against exposure to excessive fatigue, and finally it should be the policy of the State Boards to tranquilize communities and inspire confidence.

There was some applause when Dr. Chancellor sat down, but it soon became evident, that the doctors did not generally agree with his theory of the futility of quarantine.

Dr. Holt, of the Louisiana Board, urged a quarantine, not of the old shotgun style, but intelligent provision for the detention of ships and the thorough cleansing of the

hulks and the disinfecting of the contents before they were allowed to come into our port.

Dr. Reeves, of the West Virginia Board, deplored the views of Dr. Chancellor, if that meant no quarantine at Baltimore. Of what use would be any precautions adopted by West Virginia?

Dr. Stewart, of Baltimore, assured Dr. Reeves that there wasn't the slightest danger of his port being thrown open.

After the discussion had been carried on for some time, Dr. Chancellor said he believed in the majority ruling, and if it should appear that most of the States endorsed the recommendations, he would vote for them too.

On the ballot all the States voted in support of the report save Minnesota, and the point made by the Board of that State was that the recommendations were so important that more time should be taken for their consideration.

The Conference then adjourned.

REPORT OF THE TWELFTH ANNUAL MEETING OF THE AMERICAN PUBLIC HEALTH ASSOCIATION.

Held in St Louis, October 14, 15, 16 and 17, 1884.

[Reported for LANCET & CLINIC.]

The advancement of sanitary science and the promotion of organizations and measures for the practical application of public hygiene is the object of the American Public Health Association, the twelfth annual conference of which was opened Tuesday morning, October 14th, in Leiderkranz Hall, Thirteenth street and Chouteau ave., St. Louis.

Dr. Albert L. Gihon, Medical Director, United States Navy, was in the chair.

The committee which at the last meeting at Detroit was appointed to consider the advisability of the association being duly incorporated under the laws of the United States, presented its report. It recommended that the Association be incorporated, and that the president and secretary and as many of the members as resided in the District of Columbia form themselves into a committee for the purpose of securing the incorporation.

The Conference unanimously accepted the recommendation.

Dr. Lindsey, the treasurer, submitted his

annual report. It set the receipts for the year at \$2,900.16, and the expenditures at \$1,654.63, leaving a balance on hand of \$1,245.53.

Dr. Devron, of New Orleans, and Dr. Bailey, of Louisville, were appointed as a committee to go over the vouchers and report to the Association at a subsequent meeting.

The election of new members was then proceeded with.

Mr. Erastus Brooks, of New York, then proposed that the Association extend a cordial invitation to the National Board of Charities and Corrections, who were also holding a convention in the city, to attend the meetings of the Association. The motion was unanimously agreed to.

Temperance Reforms.

This completed the business portion of the meeting, and the reading of the papers was commenced.

The first was on the squalid dwellings of the poor, and was contributed by Dr. Chas W. Chancellor, Secretary of the State Board of Health of Maryland. He said the question had a most important bearing upon the public health. It was important that the public should know the existing state of affairs and apprehend the risk and hazard which was involved in their continuance. If an investigation could be made of the dwellings of the poor in the large cities of America, it would reveal a frightful condition of misery and vice. Little has been done to improve their condition. It was well known that the lower classes were much given to intemperance. There was no real reason for that, unless it was that the sense of their misery, superinduced the diseased craving for stimulants. It would be well if social reformers would regard intemperance from that point of view, as it was quite certain that the misery and squalor of the poor was largely the cause of intemperance among them. The great industrial classes of the country were entitled to protection, both as regarded their health and their avocations. Therefore it was necessary that there should be vigorously administered laws for the protection of the health of every citizen, and especially over the health of the industrial population should every safeguard be placed. A nation such as this, with 55,000,000 of population, and vast manufacturing, industrial and agricultural interests should protect the health of its citizens most adequately, as

disease paralyzed labor and wasted capital. It should be the primary object of every intelligent government to protect the health and lives of its citizens, and to maintain its people in the highest degree of efficiency for the labors of peace and the struggles of war. Though social reform was in the air, never before was the misery of the poor more intense or their condition of life more hopeless than at the present time. The courts and alleys of our crowded cities presented spectacles of squalor which were a disgrace to civilization, and which ought to arouse the public to the need for a reform.

As to the means for remedying the evil, Mr. Joseph Chamberlain, a member of the English cabinet, went to the root of the matter, and spoke out with uncompromising plainness when he said that the authorities should proceed on the assumption that the houses which were unfit for habitation should be declared public nuisances, and the authorities empowered to compel the owners to put them in proper condition or require them to be closed or demolished. It was certain that much more was capable of being done than had as yet been undertaken. The owners of miserable dens which existed in many cities, should be compelled to put them in good sanitary condition. Overcrowding them should be strictly prohibited under a heavy penalty, and houses used for crime should at once be closed, and the establishment of similar houses elsewhere in the cities prevented by the due enforcement of proper regulations. To that effect the municipal authority should have the hearty co-operation and consistent support of public opinion. When it was necessary to purchase unsanitary houses to effect public improvements, the authorities should be compelled to pay only a price commensurate with the letting value of the house for legitimate purposes, not the added value in consequence of the owners winking at the use of their property for illegal and immoral purposes, or in consequence of its being overcrowded and let to more persons than it could properly accommodate.

In conclusion, Dr. Chancellor urged that local authorities be clothed with powers enabling them to successfully combat the evils arising from overcrowding, and from the occupation of unsanitary houses.

Household Refuse.

MAJ. SAM'L. A. ROBINSON, Inspector of Plumbing of the District of Columbia, fol-

lowed with a paper on the hygienic condition of the dwellings of the poor. It was full of practical suggestions with regard to the building of dwellings, and particularly with regard to their drainage and ventilation. To begin with, he urged that municipalities should have the power to prohibit the erection of a dwelling house on a damp site until it had been thoroughly drained and a course of cement laid to prevent the rise of ground air. The authorities should insist that all water closets should have flushing tanks and efficient flushing traps. All fixtures connected with the drains should be exposed, and water closets and sinks should not be boxed in. Cast iron and other wares should be abandoned in favor of delf ware, and in every case the simplest and least complicated systems of water closets should be used. The simplest were always the most reliable. Ashes and refuse of all kinds should be removed by one contractor, if it was possible, as the most stringent regulations could then be enforced as to their frequent and prompt removal. In tenements careful attention should be given to ventilation and light, to the isolation of families, to the water closet and water supply, and, as far as possible, the use of deleterious wall paper should be prevented. It was the duty of every municipality to exercise as much care continuously with regard to the sanitary condition of the town as though cholera and yellow fever were actually in their midst and carrying off their victims daily. He alluded to the success attending the erection of the Peabody and other model dwellings in London, and said that as a result of the sanitary conditions observed in their erection the rate of mortality of the people living in them was lower than that of London generally, and lower than among the residents in the houses in the better parts of that great city. There had not been a single case of typhus fever among the adults living in these model houses. This showed the importance of attention being paid to sanitary matters, and until the sanitary condition of the poor was improved, he asserted that the work of the clergyman and the work of the schoolmaster would be all in vain.

The next paper was on

The Sanitary Condition of a House.

It was contributed by Dr. WM. K. NEWTON, Health Officer of Patterson, N.J., and consisted of a number of suggestions to be acted on by health officers in inspecting

and keeping a record of the sanitary condition and the sanitary history of a dwelling house.

DISCUSSION.

A discussion on the papers was opened by Dr. Hunt of New Jersey, and continued by Mr. E. Brooks, New York; Dr. Read, Ohio; Dr. Fee, Kansas City; Dr. Bell, New York; Dr. Raymond, Brooklyn; Dr. Briggs, St. Louis; Dr. Devron, New Orleans; Dr. Bryce, Toronto, and Dr. Cook, Nashville. In the main the discussion was with regard to the details of sanitary work.

Mr. BROOKS introduced the question of licensing plumbers. He said the New York Legislature adopted a bill three or four years ago compelling plumbers to hold licenses. The bill, when introduced, was strenuously opposed by the plumbers, but now that it had been in force a few years the plumbers themselves were in favor of it as they held that it kept incompetent men out of the business. Mr. Brooks urged that it was as important that plumbers should hold licenses as to their competency as it was that doctors should hold diplomas.

Dr. BRIGGS, regarding the sanitary condition of St. Louis, which had been incidentally alluded to by one of the speakers, said there was great difference between St. Louis of 1884 and St. Louis of 1849. The sanitary condition of the city at the present time was as good as that of almost any other city in the country. He would not like to say anything to stop local sanitary work, but he claimed that St. Louis had as many sanitary advantages as any other American city.

SECOND DAY—WEDNESDAY.

The morning session of the Public Health Association was called to order promptly at 9:30, President Gihon in the chair.

Dr. Gihon then read a paper written by Dr. Stephen O. Richey, of Washington, entitled "The Hygiene of Eyesight of School Children." The paper said myopia was gradually increasing in America and some decided steps would have to be taken in the near future. It was just as bad to overstrain the eyes as to dissipate in any way—by excess of eating or of drinking. We should not be profligate in study more than in anything else. A large portion of the children of this country are myopic, and in Hanover there is 94 per cent. of near-sightedness in the highest class. Agnew examined 1,000 students and found that the ratio of myopia increased with the

grades. At the Polytechnic Institute in Brooklyn the percentage was ten per cent. in the lowest class and sixteen per cent. in the highest. The tendency of eyes doing necessary work in school is toward myopia. Constant labor for five hours at a time, with poor light and bad position, with a slight uncorrected refraction, are some of the causes. A remedy was proposed not allowing the children to attend school until the period of second dentition, and the time apparently lost could easily be made up. The suggestion to examine the eyes of all school children every six months was a good one, as progressive myopia could easily be avoided. The substitution of pen and paper for slate and pencil, of the slanting system of penmanship for the upright system, have all been discussed favorably and adversely. The author thought the greatest danger was not in writing, but in reading; the strain upon the eyes from reading the same kind of print for many hours was very bad.

The report of the committee on school hygiene next followed, Prof. D. A. Sargeant of Harvard University, being the author. Circulars should be sent to the school teachers throughout the country, to obtain information on the subject of school hygiene. The report was accepted and the committee, increased to seven, was allowed to stand.

"Cotton-Seed Oil as Food," by Prof. Chas. E. Monroe of United States Naval Academy, Annapolis, Md., was read by Dr. Beuglass of Brooklyn. Considerable cotton-seed oil is, some people assert, frequently shipped to olive oil countries and then reshipped to this country as genuine olive oil. The question of wholesomeness of cotton-seed oil is an important one, since the oil has wide-spread uses under other names. The profits of the trade of cotton-seed oil among the poor are enormous, and the question of cotton-seed oil as an article of food should be examined.

SCHOOL HYGIENE.

"School Hygiene," by Dr. Felix Fomeno of New Orleans, a very interesting paper, followed next. Within the past twenty years philanthropists have made many efforts in the direction of improving school hygiene. Societies for the protection of children have been founded in all cities of America, and in France tracts are distributed, on the subject, to all persons registering the birth of a child. Many incidental

deaths are thus prevented. The London schools, and most other European schools, are excellently organized, the appropriation for public instruction in England being about \$30,000,000. In France much progress has been made in education since the revolution, 135,000,000 francs being devoted in primary education. In Italy and all other countries of Europe, the same liberality prevails. In our country education is left to individual states, and national aid is not encouraged. In New York four and a half millions are annually spent, and compulsory education law requires fourteen weeks school attendance at least. But all these are of little avail without school hygiene. Is it not as necessary to teach your child the road to health as to fortune? The latter often depends upon the other. Physical development should precede mental, *mens sana in corpore sana*, was the correct motto. Vicious attitudes, crowded and badly ventilated rooms, poorly printed books, the system of overstudy, so much practiced at present, produce baneful effects, all of which might be avoided. The school house should be as small as possible and removed from cemeteries, factories and places of amusement and immorality. The school yard should be as large as possible, a separate division for boys and girls, and there should not be more than forty pupils in each room. The room should be rectangular, ceilings high, windows tall and heat should be moderated; the walls should be unpapered, the colors of ceiling and walls should be carefully studied; the flooring cemented or made of hard, polished wood. Spitting should be absolutely prohibited, as certain contagious diseases may thus be transmitted. Coughing should also be prevented, and the air should be constantly renewed at short intervals. The heating requires special attention, and closets are often foci of disease and should be carefully watched. Typhoid fever and diphtheria are often caused by uncleanness in this respect. The return to school of children suffering from contagious diseases should be closely guarded; benches, desks and other school furniture should occupy our closest attention. Twelve thousand and nine hundred and sixty hours are occupied by children on school benches, and curvature of spine and myopia are caused by wrong positions. Benches should be washed, should be wide and have a back; lid of the desk should be movable and be in-

clined; hat racks should not be indiscriminately placed for all the children. Proper attitudes for all children should be enforced; they should not be allowed to lean forward in reading or writing, and the object should be held at least twelve inches from the face. The child should sit squarely at the desk; early rising and early going to bed should be enjoined. Myopia is caused by badly printed books, faulty attitudes, long hours of study without intermission and poor light. Calisthenics or gymnastics are now introduced in most private institutions and should be made compulsory in the public schools, and both boys and girls should be made to participate. The exercises should take place as far as possible in the open air or in a well ventilated room.

A well regulated system of gymnastics should never produce fatigue or exhaustion. The children should be taught elementary notions of hygiene. Few schools, however, possess chairs of hygiene, and in only ten states are courses given in hygiene in colleges and schools. Yet hygiene is perhaps the most important of all the sciences. Sanitary relations are looked upon as absurd and tyrannical. Public lecturers on hygiene are not numerous enough — school children must be given a hygienic knowledge. Much disease might thereby be avoided. Hygiene should be taught in the elementary schools in a concise manner and afterwards enlarged upon, and boys and girls should both be taught. Hygienic instruction should, if possible, be given by a medical instructor, but so many good text books on the subject are now in existence that the matter is much simplified. Special sanitary inspection of all schools should be made at least twice a month, as schools may be the cause of much disease. Plans for school houses should be submitted to building inspectors, to see whether hygienic requirements have been followed. Medical inspectors should see that all the defects above mentioned are obviated. Reports of the diseases among the children of his district should be submitted monthly. School programme of study is the most important part of the question. The curriculum of primary schools is too complicated, school hours are too long without sufficient intermission, and the method of teaching is too abstract. Children cannot concentrate their attention for a long while on study, and the hours should be proportioned to the age. Excessive nervous sensibility should

be avoided, especially in the young. Children have an extraordinary faculty for learning language without understanding the grammatical construction. The necessity for short intermissions is absolute in order to avoid cerebral lassitude. The number of school hours varies from twenty-eight to forty hours a week in different countries. The best system is in Belgium, where the hours are regulated according to age. Studying at home is prohibited for the very young, and limited to a few hours for the older scholars. Cerebral lassitude can be relieved by proper sleep, a child six years old requiring at least ten hours sleep. Recess, hot lunch, and gymnastic exercises, drawing, singing and reading aloud are all good. Vacation for at least two months each year should be insisted on for both pupils and teachers.

The following table is similar to that in use in Belgium, and has also been recently adopted in London.

	7 & 8 yrs Boys Girls Hours		9 & 10 yrs Boys Girls Hours		11 & 12 yrs. Boys Girls Hours	
Mother tongue	5	5	9	8	10	9
Writing	3	3	3	3	3	3
History and geography	1	1	2	2	2	2
Hygiene and Philosophy	1	1	2	2	2	2
Natural science	1		1	1	2	2
Arithmetic	3	2	3	2	3	2
Foreign language	3	3	3	3	3	3
Drawing	1	1	1	1	1	1
Singing	1	1	1	1	1	1
Needle work		2		2		2
Gymnastics and Recreation	5	5	5	5	5	5
Total hours per week, 5 days	24	24	30	30	32	32

Dr. E. S. Elder, secretary of the State Board of Health of Indiana, read a paper on "A Sanitary Survey of the School-Houses of Indiana." The system of Indiana is a pride to the people of the state, but it was found that many defects existed in the 10,000 school-houses of the state. Circulars were sent to all the school teachers throughout the state, and very suggestive reports were received in return. Most of the school houses were at least seven years old, and nearly seven tenths of the playgrounds were too small, being less than one acre. All thoughtful persons will see the necessity of having the school yards fenced, yet reports showed that 47 per cent were not fenced. Few were drained, underdraining was entirely wanting, and in 14 per cent pools of stagnant water were allowed

to accumulate. Thirty per cent had not proper means of ventilation, 17 per cent of the stoves were out of order, thus endangering the lives of the children. The stoves are generally in the center of the room, and those near them are too hot and those distant are too cold. Wrongly placed blackboards, bad windows, and water supply are causes of great trouble. Twelve per cent of school houses depend on ditches for their water supply, and many wells were polluted with the bodies of dead animals, drains from cess-pools, grave yards, etc. Closets were also usually very badly arranged. No child should be allowed to enter school without being vaccinated, and in Indianapolis, where the rule is enforced, not a child was ever attacked by small-pox, but in 12 per cent of the schools no law against infectious diseases was enforced. The law in regard to the doors opening outward is seldom observed, and, in fact, most of the country school houses are flat, square boxes, located upon land too poor for anything else. A few weeks ago a statement was made in New York that three thousand children lost their lives annually in that state on account of faulty hygiene. Education in hygiene cannot be effected by the present literary course, and in schools and universities even, there was the most utter disregard of the laws of health. The schools are in better hygienic condition than ever before, and dark as is the picture presented by the survey, it is certain that the same state of things exists in all other commonwealths. We should try to remedy the grosser evils first and depend upon a pure hygiene for an improved result.

[TO BE CONTINUED.]

SULPHIDE OF CALCIUM IN SCABIES.—In the *British Medical Journal* this treatment is advocated. The following is a liquid preparation:

Flowers of sulphur, 100 parts.
Quicklime, 200 "
Water, 1,000 "

Boil the whole for some time, stirring till incorporated; allow it to cool, and decant into bottles and hermetically seal. The patient is put into a warm bath, then painted with a brush dipped in the solution, and placed in bed in a flannel nightgown or blanket; a second warm bath generally cures the patient.

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Cincinnati, October 25, 1884.

The Week.

STATEMENT RELATING TO THE INTERNATIONAL COLLECTIVE INVESTIGATION OF DISEASE.—The general meeting of the International Medical Congress, held at Copenhagen, August 14, 1884, upon propositions made by Sir James Paget, Prof. Ewald of Berlin, Prof. Bouchard of Paris, and Dr. Billings of Washington, passed the following resolutions:

1. That an International Committee be formed for the Collective Investigation of Disease, in connection with the work of the International Medical Congress.

2. That the following gentlemen do represent their respective countries thereon:

Denmark: Profs. Trier and C. Lange, of Copenhagen.

Scandinavia: Dr. E. Bull, Christiania.

Russia: Dr. Rauchfuss, St. Petersburg.

Germany: Profs. Ewald and Bernhardt, Berlin.

Austria-Hungary: Profs. Schnitzler, Vienna, and Pribram, Prague.

To whom was added by co-optation: Prof. Korányi, Buda-Pest.

Switzerland: Prof. Despigne, Geneva.

France: Prof. Bouchard, Paris, and Dr. Lépigne, Lyon.

Great Britain and Ireland: Sir Wm. W. Gull, Bart.; Prof. Humphrey, Cambridge, and Dr. Mahomed, London.

British India: Sir Joseph Fayrer, K. C. S.I.

United States: Prof. A. Jacobi, New York, and Prof. N. S. Davis, Chicago.

South America: Dr. Gutiérrez-Ponce, Paris.

Secretary-General: Dr. Isambard Owen, London.

Representatives of other countries to be hereafter appointed.

In accordance with the following resolution of the first meeting of the above Committee, held at Copenhagen on the following day, viz:

"That the Secretary be instructed to prepare a statement as to the objects of the Committee, for translation and publication in the journals of the various countries represented;"

I beg leave to submit the following statement to the members of the medical profession of Ohio and neighboring States.

ISAMBARD OWEN, *Secretary-General*.
5 Hertford Street, Mayfair, London.

The main objects which the Committee seeks to attain through the collective investigation of disease are to widen the basis of medical science, to gather and store the mass of information that at present goes to waste, to verify or correct existing opinions, to discover laws where now only irregularity is perceived, to amplify our knowledge of rare affections, and to ascertain such points as the geographical distribution of diseases and their modifications in different districts. It will be its endeavor to place clearly before the whole profession the limits and defects of existing knowledge, as well as to stimulate observation, and to give it a definite direction. It will be a not unimportant incidental result of its work should it tend, as is hoped, to the better training of the members of the profession in habits of scientific and practical observation, and in systematic methods of recording the facts which they observe.

The age in which we live has seen enormous advances in the sciences on which the fabric of medicine rests, such as chemistry and other branches of physics, physiology, and pathology. Each of these has taken giant strides. It must be admitted, however, that purely medical knowledge has scarcely made proportionate progress. It cannot be expected that it should do so, as it deals with the aberrations of the most

complex of organisms, is of all sciences the most difficult, and demands the greatest patience and the largest accumulation of data.

Hitherto the advancement of medical science has been brought about mainly by individual effort. The value of such work in the past we in no way underrate, nor do we desire to lessen the amount of it in the future; but in medical science there is much that defies interpretation from individual experience, and many problems so far-reaching in an everwidening field, with elements so manifold, that no single man, however gifted and long lived, can hope to bring the whole within his range. The need, therefore, in medicine, of that combination and concentration of individual work which is adopted in many other branches of science and in commerce, and to which increasing facilities of intercommunication have given so much impulse and so much strength, cannot be questioned. Indeed, it may be said that, resting on individual research alone, medical knowledge can be advanced but slowly and with difficulty. Future progress to any great extent must be the work, not of units acting disconnectedly, but of the collected force of many acting as one. For many to act as one, organization is needed; that organization it is the purpose of our Committee to supply.

Disease is many-sided; and we wish to include in our organization those who see it from every side. All, therefore, whether hospital physicians, family and school attendants, specialists, medical officers of the Army and Navy, and of workhouses and asylums, will be asked to contribute their quota of observation to the common fund.

In England and in Germany organizations for this purpose already exist, through which good work has been accomplished; and a volume entitled the *Collective Investigation Record*, containing tabulated returns, with reports upon them and other matter, is published annually by the British Medical Association. France and Austria are alive to the importance of the new method. In Scandinavia and in the United States the foundations of associations have been laid. Denmark, Russia and Switzerland are setting their hands to the task. To unite these several associations by an international organization for the study of various

problems, and to induce the formation of similar combinations elsewhere, is felt to be a work peculiarly befitting an International Congress. Our Committee is enjoined by the Congress at Copenhagen to endeavor to carry out this work, and, in compliance with that injunction, it invites the co-operation of all who have at heart the promotion of medical science and practice.

The following is the proposed method: A subject having been selected, a person or persons of acknowledged authority will be asked to write a memorandum, in the form of a short essay, upon it. The memorandum will succinctly give the present state of our knowledge. It will also point out the directions in which further research may best be made; and, with this view, will suggest a few simple and definite questions upon the subject selected. The questions will relate to matters of fact, to be elicited by observation of cases, rather than to matters of opinion.

The contemplated organization will, it is hoped, in time enable the Committee to ask and collect answers to these questions from the profession at large wherever scientific medicine is studied or practiced. It will be a further duty to examine, arrange, tabulate, and deduce results from the mass of observations thus collected, due credit being given to each contributor for the information he has furnished; and reports of the results will be laid before the International Congress at its next meeting at Washington.

WASHINGTON OBSTETRICAL AND GYNECOLOGICAL SOCIETY.—At a regular meeting of the above named society, held October 17th, 1884, the following officers were elected for the ensuing year:

President: Samuel C. Busey, M.D.

Vice-Presidents: W. W. Johnston, M.D. and J. Taber Johnson, M.D.

Recording Secretary: C. H. A. Kleinschmidt, M.D.

Corresponding Secretary: Samuel S. Adams, M.D.

Treasurer: Geo. Byrd Harrison, M.D.

Committee on Business: C. E. Hayner, M.D.; Lachlan Taylor, M.D., and S. S. Adams, M.D.

Committee on Admissions: J. R. Bromwell, M.D.; H. H. Barker, M.D. and G. W. Acker, M.D.

Committee on Publications: T. C. Smith, M.D.; T. E. McArdle, M.D. and C. H. A. Kleinschmidt, M.D.

Selections.

AN ADDRESS ON CHOLERA AND ITS BACILLUS.

Delivered before the Imperial Health Board at Berlin, by

ROBERT KOCH, M. D.

After the reading of Dr. Koch's paper on Cholera and its Bacillus before the Imperial Board of Health in Berlin, (see LANCET AND CLINIC for Sept. 27, Oct. 4 and 11) a discussion on the subject took place on July 29.

The following questions were proposed by Dr. Koch for discussion.

1. Is cholera produced by a specific infectious matter that only comes from India?

2. Is the infectious matter communicated only by the intercourse of human beings with one another?

3. What are the bearers of the infectious matter in foreign traffic?

4. What are the bearers of the infection in ordinary traffic in places where cholera is prevailing—corpses of cholera-patients, effects of cholera-patients, linen, articles of food, drinking and household water, the air or insects?

5. Is a direct transmission possible, or must the infectious matter pass through a kind of maturity, or change of generation in the soil?

6. Is the infectious matter reproduced in human beings, or does this occur independently of human beings, in the soil, and do human beings, animals, etc., only serve as bearers of the infection?

7. Is the infectious matter contained in the dejecta, in the vomits or is it also to be found in the blood, urine, sweat, or air for breathing?

8. Does the infectious matter possess much power of resistance?

9. Is it destroyed in a short time by desiccation?

10. Can the infectious matter reach the body through other channels than the digestive tract?

11. Does it require special susceptibilities for its development?

12. What is the duration of the incubation stage?

13. Does it afford immunity from a second attack?

14. Is the comma-bacillus the infectious agent?

15. Can the mode of operation of the bacillus be looked upon as a kind of intoxication?

16. Can the proof of the presence or absence of the comma-bacillus be diagnostically turned to account?

Dr. Koch wished it to be understood that these questions did not comprise all the subjects for discussion, and some might be passed over, or others added. He put the question as to the importance of the comma-bacillus last, because he did not wish to anticipate anybody in his judgment of the nature of the infectious matter.

The discussion opened on the first point, in regard to which Dr. Koch said: I considered it necessary to put this question, because it has been doubted by many, even very recently, whether cholera is a specific disease, and that it has its *habitat* in India.

Professor Virchow said no discussion was necessary in Germany on this point; and Dr. Hirsch declared that at the Sanitary Conference of 1884 at Vienna there was unanimity on the point that "cholera occurs in Europe only when introduced from India."

Question 7 was then introduced. Professor Virchow believed that all former investigations with regard to the blood had led to no conclusive result whatever. As for the secretions, it never occurred to him that infection could take place through them.

Dr. Koch maintained the view that the infectious matter is only contained in the dejecta.

On coming to question 16 Professor Virchow said that with this was connected the question how far the comma-bacillus was to be regarded as the specific element in the diagnosis, and therefore as the real causative agent.

Dr. Koch said that in putting question 16 he was chiefly thinking whether the methods for determining the presence of comma-bacilli were not beyond what could be expected from every physician, or at least from every sanitary official, who would be first expected to make the diagnosis. The microscope alone was sufficient in only a few cases. It was above all necessary to understand how to make cultivations of the bacillus.

Professor Virchow proceeded to discuss 14th question. He was forced to say that some points of certainty were yet wanting. On the one hand, no one had yet succeeded in producing cholera in animals in any way by inoculating them with the bacillus. He acknowledged that this was not positive evidence. Putting aside older experiments, to convince himself by examining such an animal, the question was rendered more difficult by the communication from Dr. Koch that Dr. Richards had succeeded in causing severe attacks, and finally death amongst pigs by feeding them with the contents of a cholera intestine. The question then was, how far can these attacks be considered as identical with cholera? Dr. Koch had explained that it was probably a case of intoxication, possibly caused by matter produced by the bacilli. It was much to be desired that experiments should be made in this direction; that partly pure cultivation should be used for infecting the animals, and partly pure cholera-dejecta. For if the possibility were admitted that, besides the bacillus, another infectious matter existed, it would certainly be shown by comparative experiments whether it were possible to induce anything like cholera amongst animals. The possibility did not seem to be excluded. Professor Virchow, on the other hand, considered it to be very probable that the problem of the existence of a specific micro-organism had at length been solved. Out of the whole group of micro-organisms contained in the dejecta of cholera patients, there was no other that could be characterized as the cause of cholera. This was long expected, because the whole history of cholera was incomprehensible on any other supposition as to its cause. The spread of an epidemic of cholera was not to be explained by the transmission of simply chemical substances. Having this presupposition, and being also unable to show an equally strange specific organism, we must admit that the probability of the comma-bacillus being the right one is extremely strong. The rapid development of the bacillus in certain dejecta, and on the stained linen of patients exclude any other hypothesis. The question whether there was another state or disease in which the same bacillus was found in man, must remain doubtful for some years more, and new sanitary discoveries must be continually studied for this purpose. The sanitary police in their political measures would, at least for the

present, have to regard the bacillus as the thing against which chiefly to direct their efforts.

Dr. Koch reminded the meeting that the experiments of Dr. Richards could only be looked upon as showing cases of intoxication, especially as it was not possible to reproduce the infectious matter in his experiments. Dr. Koch did not assert that there was no animal on which experiments could not be successful in producing infection; he only said that nothing of the nature of cholera had ever been observed among animals on which experiments had hitherto been made, and which have come in contact with man. He by no means regarded the question as settled. He laid stress on the fact that Dr. Richardson's experiments do not furnish the slightest proof against the importance of the comma-bacillus; on the contrary, they seemed to be more than a confirmation of his view of the etiology of cholera, because in this way we learnt that a toxic substance formed in the contents of the intestine under the influence of comma-bacilli.

Professor Hirsch advocated the examination of the intestines and of the dejecta of cholera nostras. He thought it very probable this form of cholera also depended on an infection. Cholera nostras did not owe its origin solely to high summer temperature, as the disease sometimes occurred in the winter. Severe cases of indigenous cholera were very hard to diagnose from the Asiatic type; and when such cases occurred in a locality in which an epidemic of cholera had prevailed the year before, it was impossible to say whether the physician had to do with Asiatic or indigenous cholera, and the issue alone of the disease could settle the matter definitely. The proof of the presence or absence of the comma-bacillus would here afford important diagnostic help, provided that it could never be found in cholera nostras. The so-called cholera infantum was not pertinent to the question, as beyond the profuse vomiting and purging it has nothing in common with Asiatic or indigenous cholera.

Dr. KOCH had recently examined sections of the intestinal mucous membrane of a rapidly fatal case of cholera nostras. There were no comma-bacilli, but a great number of other bacilli were seen on the surface of the intestine and in the utricular glands. In some specimens from Vienna, prepared from cases which might have been cholera

nostras, but which also might have been death from sunstroke, Dr. Koch failed to find comma-bacilli.

Prof. von BERGMAN believed that cholera nostras had only been regarded as sporadic, not epidemic; but Prof. Hirsch observed that small epidemics of cholera nostras had occurred.

Prof. VIRCHOW said that that meant several cases occurring at short intervals without any connection with each other.

Prof. HIRSCH admitted the doubtfulness of the epidemic nature of such cases.

Prof. VIRCHOW compared these cases to infantile diarrhoea, which also occurred at certain times like an epidemic. No epidemic of cholera nostras spreading over a large district had ever been heard of.

Prof. SKRZECZKA noted the close resemblance of cases that occurred every summer to Asiatic cholera, cases only looked upon as cholera nostras because there happened to be no epidemic of the Asiatic type when they were observed.

Prof. VIRCHOW said that formerly we were obliged to get along without the bacilli, and on the whole got along very well. The question whether, in a given case, we had to deal with a man, epidemically ill or only suffering from a sporadic complaint, was indeed the only one of importance for the sanitary official in his practical capacity. He had a case before him which must be either cholera nostras or Asiatic cholera. If we had to deal with a doubtful case, corresponding in symptoms to Asiatic cholera, and numerous bacilli were found in the dejecta, would Dr. Koch have any doubt about its being a genuine case?

Dr. KOCH answered that he would not have a moment's doubt. But it did not often happen that comma-bacilli were found in numbers sufficient for diagnosis. Generally, the procedure of cultivation was necessary, and it never failed. Dr. Koch therefore urged the question whether the proof of the presence of comma-bacilli could be practically utilized, and in this respect he considered that it was no matter of indifference if one could with certainty diagnose the first suspected case. Recovery did not prove the disease to be cholera nostras, for people might recover from Asiatic cholera. If the investigator waited till the cases had multiplied, the favorable moment for action was gone, and it was highly important to detect the first real cases, so as to render them innocuous by

suitable measures. The method of treatment hitherto adopted, decided with the same certainty the nature of the cases, but this decision always arrived when the best time for practical action was over. By the diagnosis of the first cases at a particular place, they might be made innocuous there by isolation. But if one waited until half a dozen or more cases had occurred, then the supervision and control over the disease was lost. As for the difficulty in the method of showing the presence of the bacilli, Dr. Koch thought that the coloring of the tubercle-bacilli, with which one very soon became familiar, was more difficult than the formation of a cultivation of comma-bacilli. As most physicians had learnt how to color tubercle-bacilli, the majority of sanitary officials should be in a position to carry out an investigation of this nature.

Dr. SCHUBERT asked in what stage the comma-bacilli appeared?

Dr. KOCH had seen them in several cases, which had just been brought into the hospital; but these were not always in the first stages of the disease. In the case of a man at Toulon, who was taken ill and died in a few hours, Dr. Koch found comma-bacilli in the contents of his intestine in large numbers; he therefore concluded that the presence of the bacilli could be shown at a very early stage, and that the first colorless watery dejecta must contain a large number of bacilli.

Prof. HIRSCH asked whether, if a stranger came to Berlin who was suspected of being ill with cholera, and no trace of the bacillus was found in his dejecta, would Dr. Koch let him pass, or keep him under inspection?

Dr. KOCH would decidedly place such a person under supervision, regarding him as a suspect.

Prof. HIRSCH pointed out that a case with the symptoms of cholera occurring at a time when Asiatic cholera was nowhere prevailing as an epidemic in Europe, or in other regions outside India, and one which did not originate direct from India would always, he supposed, be regarded without suspicion, whereas such a case, at a time when Asiatic cholera was prevalent always excited suspicion in any place in Europe whether the bacillus was found or not. Such patients ought, under all circumstances, to be strictly isolated.

Dr. KOCH: In practice, it did not often

happen that a person came from a place where cholera prevailed, and became ill immediately from an unquestionable attack of cholera. In a case of this kind, if everything were perfectly clear, we could lay aside the microscope and the proceeding of cultivation, and at once treat such a person as a cholera patient, and isolate him. But, in general, the opposite was done. For the present, cholera is confined to the south of France.⁽¹⁾ But supposing that a case of cholera occurred in a German town, and the presence of comma-bacilli would be verified in this case, we should have to say that the infectious material was then in that town. Quite other measures will be taken than mere burial of the patient and destruction of his effects. Under such circumstances, it was exceptionally important that a diagnosis be made. Cholera might take a wide jump, and break out suddenly in one of the countries contiguous to France, owing to the facilities of modern traveling. For some time people would console themselves with the idea that the outbreak was only cholera nostras; but the cases would increase, and when their true nature was admitted, it would be too late to isolate the epidemic. Therefore, Dr. Koch still maintained the necessity of showing the presence of comma-bacilli for diagnostic purposes.

[TO BE CONTINUED.]

CAMPBOR INHALATIONS IN CORYZA. — Dr. G. E. Dobson writes in the *Lancet*:

This very troublesome complaint has scarcely received the attention it deserves, if we take into consideration the great number of sufferers and the serious laryngeal and pulmonary diseases to which it is too often a prelude. Amongst the host of remedies proposed for its abortive treatment, most of which are of doubtful value, or difficult to procure or apply, or even dangerous to use, not one can be named of which it may be said that it is at every one's command, easy of application, unattended with danger, and really effective. No excuse is therefore needed for introducing to the notice of the profession the following simple yet thoroughly effective mode of treatment, which in my hands has never disappointed expectations.

About a drachm of camphor, coarsely

powdered, or shredded with a knife, is placed in an ordinary shaving jug, which is then half filled with boiling water. The patient having made a paper cone, out of a sheet of brown paper or an old newspaper) large enough to surround his face with the wide extremity, and the mouth of the jug with the other end, proceeds to respire freely, at each inhalation drawing the steam into his nostrils, and at each exhalation forcing it up against the outer surface of his nose and the adjoining parts of his face. A twofold action is produced, the camphorated steam acts internally in a specific manner upon the whole extent of the mucous surfaces, and externally produces perfect diaphoresis of the skin covering the nose and sides of the face, there acting as a derivative from the inflamed Schneiderian membrane.

The jug should be surrounded by a woollen cloth, in order to prevent the water cooling, or better, if a tin can be used, a small spirit lamp or heated iron may be placed beneath it, so as to maintain the heat of the water and the vaporization of the camphor.

The patient should continue his respirations (keeping the margins of the paper funnel closely applied round his face) from ten to twenty minutes, and this should be repeated three or four times in as many hours, till entire freedom from pain is experienced. Great relief is always felt, even after a first application, and three or four usually effect a cure. Camphor, or some of its preparations, have, as is well known, long been in use in the treatment of colds, but the above described method of employing it in conjunction with the vapor of water, both as an internal and external application at the same time, has not, so far as I know, been previously brought to the notice of the profession, or, if brought, has not been recognized in any general or special medical work. The mode of application, however, is allimportant, but as this is neither troublesome nor otherwise unpleasant to the patient, nor are the materials difficult to procure, camphor being everywhere a household drug, I believe that those who may give this treatment a trial will find it not only a simple but most effective remedy against coryza. — *The Practitioner*.

¹ This was before the cholera had spread to Italy and Spain.

KEFIR.—As already noticed in these columns, kefir, also known as kapor, is the

name of a peculiar ferment, and of a drink produced from milk by its agency. The ferment has been known from the earliest times in the Caucasus, and has for ages been used by the inhabitants of that region in the manufacture of a popular drink prepared from cows' milk, and much resembling true koumiss in appearance, taste and properties, except that it is said to be much more palatable.

Dr. W. M. Dimitrejew, a physician of Jalta, was one of the earliest to direct the attention of scientific men to this food preparation, which appeared to him likely to be of service in localities and seasons of the year in which true koumiss is not procurable.

It has been ascertained that the ferment is a compound one, consisting in part of the ordinary yeast fungus, and in part of a peculiar bacterium, to which the name of "Dispora Caucasica" has been given.

The mode of preparation of the kefir is very simple, cleanliness and accuracy being the only two necessary conditions. The milk used should not be too rich, and only moderately fresh. Half a glass of the fresh kefir fungus is placed in an earthenware or glass vessel with a wide mouth, and to this is added three glassfuls of milk. The mouth of the vessel should be lightly covered with a piece of cloth. The vessel should then be kept in a room at a temperature of about 66° F., and every half hour shaken so violently that the fungus which generally floats at the top shall settle at the bottom. In this way the drink is ready in about twenty-four hours, and at the end of this time the fermented milk is poured off from the ferment, and fresh milk poured on for next day's brew. The fungus should be washed twice a week in cold water, care being taken that every particle of curd be removed. This is the ordinary kefir of the Caucasian mountaineers. For the preparation of bottled kefir one glass of the above is added to two glasses of skimmed milk, and the mixture is then put into strong bottles. These are kept at the temperature of 66° F., and shaken every two hours.

In this way at the end of twenty-four hours, "weak" kefir is obtained; in two days "medium" kefir, and at the end of three, "strong" kefir. The difference between the weak and strong kefir depends on the more advanced chemical changes in the stronger kind, resulting in a greater

richness in lactic acid, carbonic acid and alcohol.

This bottle kefir sparkles, is more agreeable in flavor, and is drunk in greater quantities than the ordinary kefir. This drink may also be prepared from boiled milk.

As regards dietetic value in health and disease, it is claimed that it is about equal to that of true koumiss, and decidedly superior to that of sham or artificial koumiss, the only representation of the real article met with among ourselves, although, by the by, we do not deny nor would we underrate the value of even imitation koumiss in suitable cases.

The ferment which contains the fungus may be obtained in a dried but active state from Frau A. Schneeman, 13 Deorientstrasse, Hanover.—*Med. Press.*

INTERMITTENT CONTRACTIONS OF THE UTERUS IN THE DIAGNOSIS OF PREGNANCY AND ITS COMPLICATIONS. — Dr. Braxton Hicks, of London, presented a paper on this subject to the late International Medical Congress. He again called attention to the value of this means of diagnosis, and briefly referred to the discussion on his paper in the last Congress, where it was stated that soft tumors of the uterus also contracted at intervals. Presuming that this was ultimately found to be correct in general, the cases in which this would interfere with the diagnosis were pointed out; namely, those in which the fetus could not be felt, and where hemorrhage was urgent, for instance, where the uterus remained constantly firm, as in some cases of blighted ovum, apoplectic ovum. In these, there was almost always a history of pregnancy, and of recent hemorrhage; while, if there were amenorrhoea or only normal menses, it would be exceedingly rare if it were a soft tumor. He gave three cases; two of pregnancy complicated with uterine fibromata. In the third one, of extreme obliquity of the uterus, it was difficult to say how much was uterus. In all the cases, the exact relation of the uterus was clearly and readily made out by means of the alteration which occurred at short intervals in the density of the uterus.—*Medical and Surg. Reporter.*

Mr. Lawson Tait, while at Hamilton, Ontario, opened the abdomen for supposed gall-stones and found carcinoma instead.

Correspondence.

FOREIGN CORRESPONDENCE.

CHOLERA INVESTIGATIONS OF THE EUROPEAN EPIDEMIC OF 1884. (Continued).

VIENNA, October 4, 1884.

Editor Lancet and Clinic:

From the investigations of Wiegand, etc., we at once perceive that it is impossible to entirely destroy these micro-organisms wherever they may occur, to clear the air, water, plant and animal cells of them, but likewise that even more important fact "its possibility would be no aid to us in medicine." Furthermore, we may conclude that these "pathogeneous" bacteria are destroyed, as soon as we remove the process of disease, whose carriers they are and on whose soil they grow, the necessary conditions of that process; our treatment for the cure of such diseases should therefore never be directed against the bacteria, but the accompanying process of disease independently whether they apparently originated from or caused the morbid process. Wiegand's hypothesis may be put as follows: That even if infectious diseases are as a rule caused by ferment-organisms this does not necessarily exclude an occasional spontaneous occurrence of said diseases, for from the analogy of putrefaction and fermentation it might be possible that in the first preparatory stage of a spontaneous occurring infectious disease, corresponding to the stage of maceration or softening in putrefaction and fermentation, bacteria might be developed which in turn would cause the true disease, and being conveyed to a healthy organism would cause this same morbid process in like manner as in the diseased organism from whence they originated. Putting this proposition more objectively and absolutely we have the following: Infectious diseases originate either from a spontaneous process or under certain circumstances through a conveyance of the ferment-material formed during the former (infectious material as it were) to other individuals, and the possibility of such conveyance depends: 1st, upon the power of infection exhibited to a greater or less degree by the ferment material produced by the disease, and 2d, upon its effect upon the more or less prepared constitution and soil upon which it is carried.

Now, suppose we apply some of these

results to Koch's cholera investigations and draw our own conclusions. Such an infectious material was not found by him, moreover the comma-bacillus does not possess a single property ascribed to them and neither in animal nor man could its infectious character be demonstrated. Although we do not doubt that continued feeding of cholera refuse matter would, even in the lower animals, produce a form of intestinal catarrh, the most severe of which we term cholera. The cholera comma-bacillus possesses not one single specific property to characterize it as such, it is changed morphologically at once even in that fluid said to be best suited for its maintenance, gelatine. Its shape, small size and alkaline reaction lead us to assume that it is identical with the active bacillus found by Wiegand in muscular tissue, is produced in large numbers by the maceration of the epithelium of the intestinal mucous membrane but likewise by the rapidly terminating disease is as rapidly again destroyed. That it is a micro-organism of decaying processes we may infer from its small resistance power to acids and the dyeing process, both of which at once destroy its vitality. This we are led more strongly to believe from the fact that during the softening stage of the intestinal walls this bacillus is almost solely present, while after the diseased process is disappearing and resolution occurring it entirely disappears and the normal bacilli described by Wiegand once more reappears to fill its place. This entire pathological change, however, seems to prove that the true cause of cholera can hardly be ascribed to a specific poison, because this poison always required a longer period of development under similar surrounding necessary conditions. Assuming this as granted then we must again conclude that cholera itself is not a true specific disease, but, as Oesterlein claims, is merely an intestinal catarrh which runs through various different degrees of severity, and under unfavorable conditions of the organism undergoing these changes terminates fatally. As explanation for its occurrence in epidemic forms we are not forced therefore to assume its possessing a specific or infectious character, but merely require the proof of the similarity or better identity of the prerequisite conditions in the affected, and these are readily given in the surroundings or mode of living, food, hygiene, filth,

etc., found in cholera sufferers as a rule. Koch himself claims that before the attack and even in the very first passages the bacillus is absent and that with the terminus of the disease it disappears very suddenly. This would rather tend to show that it is a product and not the cause of the disease. Again, when it is present in greatest numbers, all other bacteria, usually so abundant in the intestine, are absent and only reappear when the cholera bacillus in turn has vanished, and this would rather add evidence to the truth of Wiegand's statements proved by his experiments: that it is indeed only a modified bacillus so changed by the disease in question. But from Koch's own reports from Alexandria, Suez, Cairo, Calcutta, etc., when his descriptions are read from an objective standpoint, we are forced to conclude that he is not speaking of a specific bacillus at all, for he says "while the bacillus of cholera when seen in the intestine is very small, comma-like, or semi-circular, it at once is changed, when removed from the intestine for cultures in fluids prepared for that purpose, into an S-shaped, long and curly bacillus, and furthermore does not infect man or animals with cholera, but likewise is changed completely morphologically upon its removal from the patient," in other words *possesses no specific properties*.

OTTO W. FENNEL, M.D.

WOUNDS OF THE SCALP.—TREATMENT.

Editor Lancet and Clinic:

Recently I have read two articles in your journal which discuss briefly the management of wounds of the scalp. Having been placed in a position where a large number of such injuries came under my observation, I venture to offer you the results of that experience.

Two years ago the custom, in one of the largest hospitals in this country, was to dress all scalp wounds in the following manner: Foreign substances were carefully washed from the wound with carbolic solution, and hemorrhage was arrested by torsion, the ligature or pressure. The smaller wounds were sutured sometimes, but, generally, both small and large wounds of the scalp were packed with picked lint, saturated with carbolized oil or impregnated with iodoform, in order that healing

should take place by granulation from the bottom. For the external dressing carbolized gauze, oakum and bowated cotton were used. In the majority of cases the progress of the healing under such circumstances was tedious. Pus was formed in abundance, and, not infrequently, considerable trouble was caused by burrowing of the discharges, which would occur whether the wounds were packed lightly or not. The average duration of the cases was, I think, from three to five weeks. The wounds were dressed every second or third day; after granulation had begun well, the packing was saturated with balsam Peru.

A number of cases became affected with erysipelas during the period in which this method was in vogue. If I remember rightly, in not one of them had sutures been put in the wound.

Later this method was abandoned altogether. Then large and small, contused and incised scalp wounds were treated with the strictest antiseptic precautions, and the results were uniformly excellent. It became the routine treatment to shave the scalp about the wound, cleanse the region thoroughly, cleanse the wound very carefully with some powerful antiseptic solution, twist the bleeding points or apply antiseptic ligatures, suture the wound with prepared catgut or silk and introduce catgut drains in certain cases. During the execution of these manœuvres, the wound and its vicinity were frequently wet with a strong antiseptic fluid. Iodoform was dusted upon the line of suture, an antiseptic gauze and cotton dressing applied, and pressure was made by the bandages upon such regions as circumstances demanded. These dressings were changed every week or ten days. The wounds healed very rapidly by primary union, in the great majority of cases, without the production of pus. And where the contusion was so severe that healing by primary union was impossible, the granulation process proceeded with very little suppuration. As large a number of scalp wounds were managed according to this method as by the former, but in no case was the wound attacked by erysipelas.

That the thorough antiseptic treatment of scalp wounds is the best, I have no doubt. Experience has taught that it is the safest for the patient in all cases; it is the greatest protection against erysipelas, a complication that attacks small scalp wounds quite as readily as large ones.

A certain degree of annoyance, both to surgeon and patient, arises from the application of bandages to small scalp wounds. The surgeon regrets the necessity of using bulky dressings in such cases, and the patient objects to anything that will attract attention or interfere with the perfect fit of his hat. In such cases the amount of discharge will be small and non-purulent, if the antiseptic management of it be very thorough. The wound may be closed as in other cases, and when the iodoform has been dusted upon the line of suture one of two courses may be pursued in order to avoid the use of bandages. If the probable amount of discharge of blood or serum shall call for an absorbent dressing, two or three layers of antiseptic gauze and a piece of prepared cotton may be laid upon the wound. A piece of rubber tissue, large enough to extend beyond the edges of the gauze and cotton, may be glued to the shaven scalp, which has been cleaned with ether, with a solution of rubber in chloroform. A second layer of rubber tissue will make this dressing more secure. It will tend to loosen at the margins in two or three days, but may be pasted down again with the rubber solution. [So far as I am able to judge, I was the first person to use this dressing; but, it is so simple, that I should not be surprised to learn that it had been applied a thousand times before I thought of it.] In many small scalp wounds the discharge will be trifling in amount. Then it is not necessary to use an absorbent dressing. Over the iodoform, several coats of collodion may be painted to make a firm covering. There will be some effusion under the smallest scalp wounds closed in this way. But it will not become purulent if the wound has been rendered *perfectly aseptic*. It will be absorbed gradually and the wound will heal by primary union. Some German surgeon has recommended a solution of iodoform in collodion for such purposes. It is a useful thing, but I prefer to apply the two in the manner indicated already. Should the surgeon become anxious on account of the distension caused by the effusion beneath the scalp, an aseptic puncture with an hypodermic needle will reveal the presence of either blood or serum; both should be left to the tender mercies of Nature.

J. H. WOODWARD, M.D.
Brandon, Vt., October 25, 1884.

THE REFRACTION OF THE EYE.

Editor Lancet and Clinic:

A manual for students, with the above title, by Gustavius Hartridge, F.R.C.S., just received, a neat volume of 204 pages, with eighty-seven illustrations, published by J. & A. Churchill, London, 1884, fulfils admirably the endeavor of the author as expressed in the preface to "state briefly and clearly the main facts with which practitioners and students should be acquainted, in order to enable them to diagnose errors of refraction accurately, and to prescribe suitable glasses for their correction." The old measurements have wisely been omitted in favor of the almost universally adopted metrical system. The first chapter, devoted to the general subject of optics, may have been omitted, yet it adds somewhat to the completeness of the book. Chapter Four, devoted to Retinoscopy, is the best article on this recent method of determining refractive errors published. It is quite full and enters into the discussion of the manner in which the shadows are formed very thoroughly. And the cases given in this chapter and also at the end of the book can not but be of great assistance to beginners in this difficult subject; especially those who have not the benefit of teachers and clinical material in abundance. In performing retinoscopy the author makes one serious mistake in common with many others. After placing the light, patient and observer in their respective positions, the patient is directed to "look at the *centre of the mirror*," which causes him to bring all of his accommodation into action. By so doing he not only causes the accommodative efforts to be made, but the pupil will almost invariably be contracted to such a degree that it is difficult and often impossible to determine the direction in which the shadow moves. Under these conditions there is no alternative but to use atropia or some other mydriatic. But these difficulties can always be avoided in a great measure at least if not entirely by having the patient look in the distance, at the wall, past the ear of the observer. The accommodation will be relaxed, the pupil dilated, and the unpleasant sensation of looking at a bright light avoided. With a little practice one is usually able to tell whether the patient is using his accommodation or not by the condition of his pupil.

I have used retinoscopy almost exclusively in determining refractive errors for the past two years. I am usually able to work out cases of astigmatism at one sitting of short duration, while I was formerly compelled to keep the same case under the influence of atropia for weeks and give a number of sittings trying the patience of both myself and patient. It is true that in cases of spasm of the ciliary muscle the use of atropia may be absolutely necessary and in all cases it is much easier to have the unknown quantity of accommodation out of the way. But I find myself using atropia less frequently every day, and do not use it once where I formerly used it ten times. A. R. BAKER, M.D.

Cleveland, O., October 23, 1884.

"GERMS."

Editor Lancet and Clinic :

I have about quit practice on account of poor health and, having to turn my attention to other matters, I get but little time now to study medicine, yet I want to keep up with the times as near as I can.

I find a great deal said nowadays in regard to the cause of various diseases being infusoria of particular kinds, bacteria, bacilli, etc. Now, it is my humble opinion, that nine times out of ten the microscopist has all he sees "*in his eye.*" Those animalculæ that actually exist are the natural healthy scavengers of the effete production of chemical or electrical changes in the tissues, and not the cause of diseases. We might just as well claim that flies, which are the scavengers in our houses, produce the diseases that afflict the human race, because they remove the poisonous gases from our houses, and they are found in the places where the poisons are found, as to claim that bacteria produce disease or that any other kinds of animalcules or infusoria cause disease.

I still adhere to the theory I have long entertained, that malaria is what the name purports—bad air for health—and that carbon in some form is the basis of the bad air that produces malarial diseases, and nitrous acid or oxide the cause of cholera, as stated years ago in the LANCET AND OBSERVER. The theory there advanced will answer every feature of objection to every other theory. I have seen no other theory of cause of disease that will meet all the symptoms of the resultant disease, hence

I repudiate the theory that bacteria, etc., produce disease. If a single microscopist will produce any proof, the result of *rational* experiment, that unequivocally shows that certain diseases always are produced in the *perfectly healthy* subject, when such or such microscopic organisms are introduced by inoculation, then I may accept their statements, but not otherwise.

Respectfully, WM. F. HARVEY, M.D.

Original Articles.

CASE OF ROUND-CELLED SARCOMA OF THE MESENTERY, OCCURRING IN A BOY FIVE YEARS OF AGE.

A Paper read before the Academy of Medicine, September 24th 1884,

By E. GUSTAV ZINKE, M. D., Cincinnati.

H. G—, æt. 5, was brought to my office July 15th, 1884, by his father, who stated that about five or six weeks before, his boy, while playing, fell from a swing and seemed to have been hurt about the lower and right region of the abdomen. Not much attention was paid to it at the time (the boy being with friends in the country), but continuing to complain, word was sent to his parents. When brought home, a physician, who happened to have a patient in the same house requiring daily visits, was called in, and examining the boy discovered what he thought to be a hernia, and for which a truss was applied. The child was otherwise in good condition. It ate and drank with good appetite, its bowels moved with ease, about twice daily; feces molded and of normal color. But as time went on it was noticed that the patient did not improve, indeed was growing worse. The pain increased, the abdomen enlarged, and that which seemed a rupture disappeared. The truss being of no further service was no longer worn, and had been abandoned for more than a week, when I first saw the child. Having been their family physician for several years, I was urged to take charge of the case, and my unfortunate predecessor had to withdraw. The patient's appetite was still very good, his bowels acted a little more frequently but without pain, feces still molded and of good color, urine normal in quantity and quality. Pulse 99, temperature 98.5°. His face bore an asthmatic expression, dyspnea well marked; breathing thoracic and about forty

times a minute. Percussion note clear and prolonged at apices, slight dullness at the bases. Respiration corresponding. The abdomen very much and evenly distended in every direction. The naval was flattened. On a line with ensiform cartilage around the body he measured twenty-three and a half inches; on a line with the umbilicus twenty-four and a quarter inches; on a point midway between the latter and symphysis pubis twenty-three and three quarter inches.

Palpation revealed the presence of a solid irregular mass about the size of a large goose egg, starting obliquely from the right inguinal region towards the umbilicus. This was dull on percussion, and silent on auscultation. The rest of the abdomen, with the exception of the two sides when on his back, and lower down when on his feet, was distinctly tympanitic. Ascites was not present to any extent. What then was this tumor? Was it cancer of some of the internal organs? The pain, the rapid growth pointed to it; but the age, the patient's general condition and good family history bore witness, although not positive, against it. The trouble dating and starting from the fall—could it be a hæmatoma? The liver I could easily outline on percussion, and palpation furnished satisfactory evidence that the tumor was not even adhering to it. Was it perhaps a growth of the kidneys? It was not a floating kidney; for the tumor was fixed, and it was not of the kidney, in my opinion, for the urine was not only voided without trouble, but was normal in both quantity and quality. In a boy, then, there was left to be considered only the spleen, pancreas, omentum, bowels and mesentery. Spleen I excluded because of the size, shape and location of the tumor. Pancreas was out of question, because digestion was perfect. It was then one of three things: Hæmatoma, caused by a rupture of a blood vessel; or a tumor of the omentum, or mesentery, probably malignant. For a few days I treated the child symptomatically. Daily examinations were made, stools inspected and the urine investigated.

July 31st, (six days after first visit), first size of abdomen had increased around the ensiform cartilage, two thirds of an inch; around the umbilicus a little over one inch, midway between the latter and symphysis pubis, one quarter of an inch. The tumor, too, had grown in size reaching nearly up

to the naval, and increasing in width from one and a half to two and a half inches. Being pressed for a positive diagnosis, and probable prognosis, I requested consultation. Dr. C. D. Palmer was called in. After thoroughly examining the patient, he too was in doubt as to the real nature and origin of the growth. He again saw the boy a few days later. The boy's appetite then had become somewhat capricious, but he was still eating a good quantity; stool became a little more soft and frequent; urine still normal, but the patient showed signs of failing. Pain more constant and severe, especially at night. It was then that the suspicion of cancer of the omentum, intestine or mesentery impressed itself more deeply, and a fatal termination became evident. The temperature at this time had never exceeded 100°, and the pulse ranged between that and 110. Not being sure of our diagnosis, and the case becoming daily more desperate, it was decided to call Dr. Carson in consultation. Like ourselves he was unable to shed further light upon the case. It was then decided to make an exploratory incision and to introduce the finger. If it should be found to be a malignant growth, we would abandon the case; but if benign and admitting of removal, it should be done.

Accordingly August 8th, the patient was anesthetized in the presence of Drs. C. D. Palmer, George Fackler, and my student, M. Speidel; Dr. Carson was not able to be present. I made an incision one inch in length, midway between the umbilicus and symphysis pubis, and in the median line. No fluid escaped; a small fold of omentum showed at the opening; putting it back and introducing my right index finger, I felt distinctly a large irregular tumor adhering to the anterior abdominal wall, to the omentum and intestines, the whole being matted together and inseparable. Dr. Palmer too assured himself of this condition and a diagnosis of medullary or encephaloid cancer was made. The wound was brought in opposition by one deep and two superficial silk sutures, and supported by large adhesive straps. A bandage with antiseptic cotton below was not tolerated and had to be removed the same hour.

From now on nothing further than to render the patient comfortable was done. The deodorized tincture of opium was given, commencing with small doses, increas-

ing gradually according to the necessity of the case. In the beginning cold compresses were applied over the incision, but it was impossible to continue anything in the way of local application. The child grew so unmanageable and restless as to make it utterly impossible to keep a dressing upon the wound, so that for the remainder of his life the wound remained untreated.

Diarrheal, subsequently dysenteric evacuation, and occasional vomiting of mucous began, and soon became the order of the day. Urine small in quantity, dark in color, otherwise normal. For two days after the operation the abdomen decreased in size, but again enlarged as the end approached. Temperature slowly raised until it attained 106°. Pulse 160. The scene closed August 15th. Immediate cause, perforation of the bowels from ulceration, caused by pressure of the tumor.

Post mortem was held the day following in the presence of Drs. Carson, Fackler and Mr. Speidel. Dr. Palmer being out of town. The abdominal cavity only was examined. Making an incision from the ensiform cartilage to the symphysis pubis, and one from the left to the right lumbar region, I found the omentum slightly thickened and adhered to the abdominal walls in front, and the intestines behind. The wound marking the exploratory incision had united by first intention, and showed no inflammatory change, neither upon the parietal nor upon the visceral peritoneum. The omentum was removed with difficulty. The bowels were matted together and could not be separated. A tumor about the size of a large goose egg was prominently situated in the mesentery of that part of the ilium which joins the ascending colon. The whole mesentery proper, as well as the mesocolons, mesorectum and appendices epiploicæ, were much thickened and all the mesenteric glands much enlarged.

It was impossible to remove the bowels and examine the inner surface throughout its entire length. It was noticed, however, that the portion of ascending colon, at and above the ilio-cæcal valve, was very much dilated, ulcerated and perforated. The liver was slightly enlarged but otherwise normal. The spleen was much smaller in size than normal, but showed no sign of disease. The kidneys were found to be perfectly healthy. No evidences of a previously existing hernia could be found. Subjecting the tumor to a microscopic ex-

amination, it proved to be a round-celled sarcoma, a specimen of which I have placed under the microscope before you.

MURIATE OF COCAINE.

THE NEW LOCAL ANÆSTHETIC. EXPERIMENTAL OBSERVATIONS IN DISPENSARY AND PRIVATE PRACTICE.

By ROBERT SATTLER, M.D.

The interest so recently excited and so speedily disseminated by the discovery of the most remarkable properties of a comparatively new and not much relied upon drug, has steadily increased, and has secured for the remedy a much more lasting recognition than belongs to the fate of suddenly discovered unknown properties of old remedies.

The numerous tests made within the last two weeks in America by a large number of investigators confirm and uphold the extraordinary effects claimed for it by its discoverer when instilled in a 2, 4 and 5 per cent solution in the eye. It is more than probable that the results of these investigations, yielding corroborative proof of its uniformity and promptness of action will elevate it to a rank of importance among the small list of really reliable therapeutic agents.

The plant from which the alkaloid is derived has long been used for therapeutic purposes in South America. It has never enjoyed an extensive application for specific purposes, but like countless other drugs has been used empirically for almost every disease.

Dr. H. D. Noyes, in a most interesting communication in the *Medical Record*, of October 11, '84, was the first to communicate to American readers the result of an extraordinary discovery concerning the properties of muriate of cocaine, the alkaloid of the leaves of the erythroxyline coca, when applied or instilled into the eye.

From Dr. Noyes' letter we learn that to a German student, Dr. Keller, belongs the credit of having first established the anæsthetic influences of this drug when instilled into the eye.

For further information I refer to Dr. Noyes' letter, also to the communications by Drs. C. R. Agnew, W. O. Moore and J. L. Minor in the following number of the *Record* and to the articles of Drs. H. Knapp and D. B. St. John Roosa in the last num-

ber, Oct. 25th, '84 and to various other journals.

According to the discoverer of the properties of this agent, Dr. Keller, and limited experiments by his friend, Dr. Brittauer, who first demonstrated its action on the eye to the members of the Ophthalmological Congress at Heidelberg, instillations of a two or four per cent solution are followed in from five to twenty minutes by a gradual diminution and eventually a complete loss of the sensibility of the cornea and conjunctiva, together with dilatation of the pupil. The anæsthesia is transitory, and passes away in about one hour, but the mydriasis remains much longer.

Accumulated investigations uphold these conclusions, and offer additional evidence in support of its efficacy in modifying or suspending completely the excruciating pain attending surgical operations upon superficial structures of the eye (cornea, conjunctiva, etc.), and in promptly allaying the intense suffering attending superficial and deep injuries, contusions, burns, imbedded foreign particles of the cornea and conjunctiva.

This report embodies my own observations in private and dispensary practice during the last two weeks.

Three series of experiments were instituted:

I. To test the physiological action on healthy eyes.

II. To test its efficacy during operations on the cornea, conjunctiva and the deeper structures, in modifying and suspending pain.

III. To test its pain allaying properties in recent painful injuries of the eye, and also after cauterization of the conjunctiva, etc.

The results are briefly as follows (5 per cent. solution of the muriate of cocaine):

I. The instillation followed in every case by more or less smarting and burning, which soon gives way to a feeling of coolness.

II. In from three to twenty minutes impairment of the sensibility of the cornea, followed by a period, varying in duration, during which all reflex irritability is lost or temporarily abolished, and anæsthesia of the anterior superficial structures of the eye appears complete. This period varies and rarely exceeds one hour; the average duration among the ten cases was twenty-five minutes.

III. During this period all reflex irritability is lost, the cornea can be touched with unyielding substances, paper, wood, the point of a knife, and active spasmodic movements of the eyelids or profuse lachrymation, the almost invariable concomitants of reflex action, are not observed.

When the non-cocainized eye is touched the blepharospasm and lachrymation are conspicuous, and afford the best illustration of the interruption of reflex movements.

IV. Transitory mydriasis, variable in degree and duration. In the ten cases it was never complete, although in several cases the pupil presented a maximum dilatation, so that response to light was altogether abolished. The pupil of the cocainized eye—the fellow eye being securely closed—responds to light. The excursion of the movements of the iris, however, are more and more restricted. More intense and direct illumination or artificial light reflected by the ophthalmoscope causes clonic contractions of the iris.

The associated pupillary movement—the fellow eye uncovered—was not interrupted but only modified in that the excursions were restricted. The movement of the iris of the cocainized eye was greater than when it was tested separately.

V. A peculiar pallor of the conjunctiva and whiteness of the sclera, together with contraction or diminished prominence of the bloodvessels of the conjunctiva.

VI. The accommodation of the cocainized eye is not in the least altered or modified. Careful test was made to determine the monocular near point before the instillation, and when the effect came on, trials were made at intervals of several minutes for one hour, and not in one instance did the power of accommodation suffer or relax, or the near point recede from the eye. Another proof that the accommodation of the eye was not affected was the absence of all inconvenience from the dilatation in walking, projection, etc.

VII. Ophthalmoscopic examination revealed nothing.

At my clinic two of the assistants, Mr. C. H. Castle and Dr. Goode commenced a series of investigations and the following is Mr. Castle's report.

The cases in which the action and effects of cocaine muriate or erythroxyline were noted may be divided into two classes, viz;

I. Those cases in which the physiological action was noted in the normal eye.

II, Those cases in which its specific or pain-allaying action was noted in the pathological eye, or for operative purposes.

CLASS I.

Case 1.—A. Iris gray; myopic 1:25 D.

1:50 p.m. Instillation of two drops of a 5 per cent solution of the muriate of cocaine produces a slight burning sensation which soon passes away.

1:58 p.m., corneal sensibility quite blunted; slight dilatation of the pupil.

2 p.m., both conjunctival and episcleral vessels markedly contracted; sclera remarkably white.

2:03. Full mydriasis, but preservation of reflex to light.

2:20. Cornea has lost its sensibility and allows itself to be touched with paper tapers, probes, etc. Observing monocular accommodation in the cocaineized eye, it was found the near point did not recede, and No. 1 was read with ease, even at time of maximum mydriasis, corresponding to period of greatest anæsthesia of cornea.

2:30. Light thrown from the ophthalmoscopic mirror causes a primary contraction of the iris followed by a dilatation and thereafter by clonic spasms.

3:10. All effects had passed away, and pupil had nearly returned to its normal size.

CASE 2, G. Iris gray; slightly hyperopic; 75 D.

1:36 p.m. Instillation of 5 per cent sol. mur. cocaine into right eye. Slight burning sensation when first applied. This disappearing, was followed by a peculiar weighty feeling which in about five minutes also disappeared.

1:46. Sensibility of ocular conjunctiva blunted, sensibility of cornea slightly so. Slight mydriasis.

2:00 p. m. Vision = 1. A peculiar drawing sensation about the inner canthus, especially on outward rotation of globe. Marked whiteness of sclera and contraction of conjunctival and episcleral vessels.

2:30. Pupil responds readily to light, but contraction is clonic in character. In monocular accommodation of the cocaineized eye—the other eye being closed—the near point did not recede, and No. 1 was read with ease during maximum dilatation of pupil.

3:10. Corneal and conjunctival sensibility beginning to return. Pupil contracting.

CASE 3. C. Iris blue. Hyperopic astigmatism. 1 D.

1:49. Instillation of five per cent. solution of muriate cocaine into right eye. First sensation a slight burning.

1:53. A peculiar drawing sensation toward the inner canthus.

1:55. Heavy feeling of globe. Can still read Jæger No. 1 test type.

1:57. Pupil is dilating.

1:58. Corneal sensibility, as tested by paper, tapers, etc., markedly diminished. Pupillary action for light preserved, but excursions limited. Accommodation preserved. Near point does not recede. No. 1 easily read.

2:00. Perfect corneal anæsthesia.

2:48. Light thrown from the ophthalmoscopic mirror causes a contraction of the pupil, followed by a dilatation, which again is followed by clonic spasms of the iris, lasting as long as light continues to be thrown in—some two or three minutes.

3:05. Conjunctiva and cornea are nearly restored to their normal sensibility (as compared with the left eye) and resent being touched with tapers, probes, etc.

3:10. Mydriasis is beginning to pass off.

3:15. Ophthalmoscopic examination reveals nothing.

CASE 4. S. Iris dark brown. Emmetropia.

1:35. Instillation of five per cent. solution of muriate cocaine into right eye.

1:38. Sense of weight and dull burning, like an "ice cream ache."

1:40. Weight and ache passing away.

1:42. Above feelings have all passed away, leaving a sense of coolness. Contraction of conjunctival and episcleral vessels and marked whiteness of sclera as compared with the left eye.

1:46. Sensibility of ocular conjunctiva and cornea very slightly dulled. Pupil very slightly dilated. Still reads No. 1.

1:51. Cornea still resents touch.

2:00. There not being any marked action of the drug as compared with that noted in Cases 1, 2 and 3, another instillation was resorted to.

2:15. Some anæsthesia of the cornea, but not as marked as in Cases 1, 2 and 3. Near point does not recede. No. 1 read with ease, as in other cases, even at point of maximum dilatation of the pupil.

2:48. Light thrown from the ophthalmoscopic mirror causes some clonic spasms, as in Cases 1, 2 and 3.

3:15. Ophthalmoscopic examination reveals nothing.

CASE 5. Hyperopic astigmatism. Iris gray.

8:28. Instillation of a five per cent. solution cocaine mur., produced slight tingling sensation lasting ten to twelve seconds, slight lachrymation lasting twelve minutes.

8:33. Near point does not recede. No. 1 read with ease, somewhat dulled.

8:40. Complete mydriasis, complete anæsthesia of cornea, ocular conjunctiva slightly sensitive.

10:15. Mydriasis still complete, sensation not fully returned to cornea.

10:40. Mydriasis had entirely passed away and sensibility of cornea had returned.

NOTE.—One half hour before instillation of cocaine, subject had taken gr. xv. of solution of morph. bimec. under the influence of which irides were strongly contracted, iris of left eye remaining strongly contracted during the entire time of experiment.

The following is a summary of the action of the alkaloid in healthy eyes in four cases observed by Dr. G. H. Goode at the clinic:

Seven minutes after instillation sclera was markedly white, pupil was slightly dilated and active, and the sensibility of the conjunctiva and cornea was perceptibly reduced.

Fifteen minutes later the pupil was still more dilated and corneal and conjunctival sensibility still further diminished. Dilatation of pupil and anæsthesia of cornea and conjunctiva increased *pari passu* in all cases, reaching the maximum in about twenty minutes.

The time at which the pupil began to contract and sensibility to return to the cornea varied. The earliest noted was thirty-five minutes, the latest fifty-five.

The near point did not recede from the eye. In monocular accommodation of the cocaineized eye slight pupillary excursions were noted, but not complete suspension. A point of interest was noted in all of these cases, viz.: weeping and redness of the conjunctiva were absent in eyes in which the alkaloid was instilled, whereas the slightest touch upon the conjunctiva of the eye of the opposite side caused weeping and redness.

CLASS II.

The observations to test its pain allaying or anæsthetic properties during operative proceedings were made in a number of ca-

ses. In these cases several instillations were made within twenty minutes before the operation was commenced.

CASE 11. Small piece of coke imbedded in left cornea, very deep. Eye very irritable, the result of repeated attempts at removal—4 days duration. Cocaine instilled, in 5 minutes he expressed himself relieved; in 7 minutes, foreign body was removed with speed, without suffering.

CASE 12. W. R. Chalazion—multiple. Instillation of cocaine, allowing it to run over the tarsal tumor. In 8 minutes, anæsthesia pronounced, pupil dilated. Free conjunctival incision and evacuation of the contents of the cysts with little or no pain.

CASE 13. Large furuncle in external auditory canal, very painful. Applied cocaine on absorbent cotton, and penciled the external auditory canal with the solution. After four applications in twelve minutes, a deep and free incision was made, followed by free escape of pus. Patient complained of pain, and said it was severe, but that it was only momentary.

CASE 14. A tenotomy of the internal rectus for a marked degree of convergent strabismus was performed. I am indebted to Mr. Castley for the following notes on this case:

Tenotomy of the right internal rectus muscle.

1 p.m., instillation 5 per cent. solution muriate of cocaine; further instillations at 1:05, 1:10 1:15, and 1:20.

1:25. Complete mydriasis; complete anæsthesia of the cornea.

1:30. Tenotomy performed: Cornea and conjunctiva perfectly anæsthetized. Introduction of the speculum caused no reflex contraction of the orbicularis. Patient had had a tenotomy performed on his left eye a few days previously, and declares that the pain of this operation was nothing compared to that of the former. Felt only the cutting of the tendon of the muscle.

In four cases of conjunctivitis granulosa observed at the clinic by Dr. Goode, the following notes were taken:

CASES 15—19. Eight minutes after the instillation of the alkaloid, cupri sulph. in substance was applied to the diseased conjunctiva which was allowed to remain unwashed. Patients all complained of an intense smarting in a very short time, and stated that the pain was worse than when the anæsthetic had not been used but the copper washed from the conjunctiva after use.

CASES 20—21. In two cases a solution of argent. nitras comp., grs. vi. to $\frac{3}{4}$ i., was used eight minutes after the instillation of the solution of cocaine. The results were identical with those of the four cases in which the cupri sulph. was used.

In these cases it was remarkable to find in the cocaineized eye, after a thorough application to the everted conjunctiva of the cuprum crystal or argent solution without washing it off, that the patient at once opened his eye, no weeping occurred, the eye remained free from moisture, etc., but this temporary freedom from all annoyance gave way in about one minute to the usual reflex symptoms, and showed evidences more marked of reaction than when the agents were applied and washed off.

CLASS III.

Observations establishing its sedative and anæsthetic properties in recent injuries of the superficial structures of the eye, painful and extensive ulcerations etc., also to modify caustic and astringent applications, are still in progress at the clinic, and results will be communicated at some future time.

The following notes, by Mr. Castle, are from a recent case of extensive burn of the cornea, conjunctiva and lids.

CASE 22. October 24th. Extensive burn of cornea and conjunctiva. Foreign bodies under lid. V.—E.

1:15 p.m., instillation 5 percent sol. mur. cocaine.

1:20. On removing some of the foreign bodies, patient complained of some pain; another instillation was resorted to.

1:43. Patient, who at first had strong contraction of the orbicularis, now opens his eye well. Cornea still resents touch; another instillation.

2:15. Pupil dilated to maximum. Opens his eye quite well, but still complains of a *scratching* pain at the side of some extensive abrasions of the cornea and conjunctiva.

Patient ordered

R. Atropia sulph. gr. i.

Solve in spts. vini rect., q. s.

Adde

• Olei ricini optim., $\frac{3}{4}$ ss.

Oct. 25. patient returns, complaining of severe pain, and with marked blepharospasm.

Three instillations of the cocaine in 11 minutes, at the end of which the pain was markedly relieved and patient opened his eye well and looked out of the window for some time.

Oct. 26th, returned with his eye still painful, and was again markedly relieved by the cocaine in a very short time.

From these limited observations we can infer that the drug is of value during operations on account of its anæsthetic properties, and in consequence of the suspension, while the patient is under its influence, of all reflex activity, thus removing the most difficult barrier to the performance of a satisfactory operation.

In the tenotomy case the speculum, which caused intense pain and uncontrollable contraction of the orbicularis, weeping, etc., in the uncocaineized eye in the first operation, apparently caused no marked discomfort to the patient in the second. He complained only when the tendon was cut.

In the foreign body, case XI., the intense photophobia, etc., were all relieved after two instillations. The patient could open his eye and look about without suffering. The same relief was noticed in the burn case.

The known strange properties of this drug have excited curiosity and interest as to what other virtues may yet be lurking in it, to be learned only by patient experimentation and investigation. To this end a series of experimental researches are being undertaken, in hopes that it may be proved to be of as great value to the practitioner at large as it undoubtedly is to the laryngologist and ophthalmologist.

THE INFLUENCE OF TUBERCULOSIS ON CONCEPTION AND PREGNANCY.—Dr. Fliesinger, in the *Revue Medic. de l'Est*, reports five cases from his practice which illustrate the pernicious influence of tuberculosis upon the pregnant state: Two phthisical women aborted at the fourth month; three others reached the seventh and eighth month, and of the children only one attained the age of four months. Take these cases in connection with those reported by Grisolle, Debreuilh, Burgeois and Ortega, and we adduce the important statistical fact that the death rate of children is raised by the pregnancy of phthisical women to 33 per cent. Nearly one-fourth (23 per cent.) of the offspring fail to be born alive, while the rest die soon after birth. Syphilis in the mother gives a less unfavorable average of mortality than tuberculosis, viz.: thirty-four per cent. — *Deutsche Med. Zeit.*, No. 67, 1884. J. M. F.

THE CINCINNATI LANCET AND CLINIC

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SUBSCRIBERS TO THE LANCET AND CLINIC who have not already remitted their subscription will confer a favor on the publisher by promptly doing so

Cincinnati, November 1, 1884.

The Week.

DR. JOHN L. DAVIS will read a paper at the next meeting of the Cincinnati Medical Society on the "Mortality from Pulmonary Consumption."

INDEX CATALOGUE OF SURGEON GENERAL'S OFFICE.—We are in receipt of the fifth volume of this great work. The labor of its preparation being performed under the supervision of Surgeon BILLINGS, is in keeping with that of its predecessors, and extends from *Flaccus* to *Hearth*. These immense tomes indicate the magnitude and great value of the library in the Surgeon General's office, and are a constant reminder of the necessity for a liberal appropriation by Congress for a fire-proof building.

This library is without doubt the most complete and valuable of its kind in the world, and a constant exposure to destruction by fire is far from creditable to our legislators. It should be the business of every physician in the land to either see personally, or by letter communicate with his representative on the imperative necessity of a suitable provision for the care of this great and absolutely invaluable library.

NORTH AMERICAN REVIEW.—Edward Everett Hale, in the November number, makes a plea for "Half Time in Schools,"

which every parent and school board ought to consider. The old question, where are we, and where drifting, was never more forcibly suggested than in another article in the same number, in which Prof. Giliam discusses the "African Problem."

The other articles are "Woman as a Political Factor," by Judge Robert C. Pitman; "Progress in Naval Armament," by Hobart Pasha; "Herbert Spencer's Latest critic," by Prof. Youmans, and "Restriction of the Suffrage," by William L. Scruggs.

OGILVIE'S HANDY BOOK of Useful Information, is the title of a modest little book of 128 pages we have just received, and which contains more information of practical value than many books costing \$2.00 and upwards.

It simplifies the art of reckoning, and is worth its weight in gold to those not versed in figures. Shows at a glance the correct answer to nearly 100,000 business examples in all kinds of grain, stock, hay, coal, cotton, merchandise, interest, wages, measures in lumber, logs, cisterns, tanks, granaries, wagon beds, land, carpenters, plasterers, bricklayers' work, etc., and also entirely new and practical rules for rapid business calculations, which even a child can comprehend.

It is bound in handsome leatherette, flexible covers, and will be sent by mail for 25 cents; or bound in silk cloth for 50 cents, by J. S. Ogilvie, & Co., publishers, 31 Rose street, New York.

G. P. PUTNAM'S SONS will soon publish, by arrangement with the Vienna publisher, a translation prepared by Dr. Barney Sachs, with the authorization of the author, of Dr. Mynert's great work, a "Treatise on Psychiatric." The first part of the work, devoted to the anatomy and physiology of the brain, the publishers hope to have ready by the beginning of the new year. The work will be fully illustrated.

SUIT AGAINST A DENTIST.—A San Francisco dentist brought upon himself a heavy suit for damages in the following way. He agreed with a patient to fill her teeth for seventeen dollars and a half, but demanded five dollars more upon completion of the work, and, when she declined to pay that amount, forcibly removed the fillings. Suit was brought against him for damages, and

the jury awarded a verdict of two hundred and seventeen dollars and a half, besides costs of the suit.—*Medical Times*.

PRURITUS VULVÆ. — "I have used Packer's tar soap in some very aggravated cases of eczema and psoriasis, with good results, but have especially found it useful in pruritus vulvæ, for which trouble I think it a specific."—F. O. YOUNG, M.D., Lexington, Ky.

Selections.

AN ADDRESS ON CHOLERA AND ITS BACILLUS.

Delivered before the Imperial Health Board at Berlin, by

ROBERT KOCH, M. D.

[CONTINUED.]

DRS. FRAENKEL and PISTOR observed that the laboratories and arrangements necessary for the cultivation of the bacilli were far beyond the reach of most physicians and officials; and the difficulties in obtaining the patient's dejecta, and in making necropsies in the country, were very great.

Dr. KOCH thought that the difficulties of the proceeding were overrated. The investigator had only to warm the gelatine, to mix it with a flake of mucus from the dejecta, and to pour it on the object-glass. The slide was then put under a glass receiver; or, if this were not at hand, it was laid between two plates. There could be no difficulty in obtaining dejecta. The flakes of mucus on a shirt defiled with dejecta could be investigated. It was not necessary to have a special warming-apparatus for making the cultivations; the indoor temperature in summer was always sufficient. In cases of necessity, a fire might be lighted in the room.

The discussion then turned on Questions 8 and 9: "Does the infectious matter possess a great capacity of resistance and permanency? Is it destroyed in a short time by dessication?"

Prof. VIRCHOW mentioned that, in a recent discussion with Herr von Pettenkofer, that authority had most positively expressed his expectation that not the comma-bacillus, but a permanent form (Dauerzustand) of it, yet to be discovered, was the dangerous element. Herr von Pettenkofer had gone so far as to state the

possibility of this permanent form extending over lengthened periods of time, so that the germ could remain latent at one place for several months, breaking out afterwards at a given time; and he considered it quite possible that the introduction of the germ into Toulon took place at the commencement of this year. This point, then, would be of special value for general criticism. Dr. Koch, on good evidence, did not believe in any new permanent form.

Dr. KOCH said that his conviction of the absence of a permanent form—that is, of a particularly great capacity of resistance inherent in the cholera infectious matter—had not been arrived at solely from his observations on the ways of the comma-bacillus. We really had no example at all from which it could be deduced with certainty that the infectious matter could live long; and he drew attention to the mode of action of infectious matters already known to us, which have a permanent form. The cholera infectious matter would surely have to act conformably to these, which is not the case. He had cited the examples of anthrax and small-pox, from which experience had frequently taught that the infectious matter had retained its vitality for a comparatively long time previously in a dried state, in dust, rags, wool, etc. Anything resembling this was unknown in connection with cholera. Dr. Koch distrusted the assertion that a cholera epidemic had broken out at Kriegstetten in Switzerland, owing to a parcel of rags being sent there from Zurich. Beyond a doubt an immense quantity of rags had been transported from place to place, which had been dirtied with cholera dejecta, but had not caused cholera.

Prof. LEYDEN referred to the reported case of a trunk from America having spread infection.

Prof. HIRSCH said that when travelling through the districts of West Prussia and Posen, that were visited by cholera in 1873, having been sent there specially by the Imperial Chancery, the task set before him was to collect facts which could prove whether, and how far, cholera can be introduced by personal effects, and how long defiled linen remained infectious. He investigated cases where objects of this kind had been brought from infected localities to distant neighborhoods previously free from cholera. In several of these cases,

the personal effects had remained unused for some time, and had then been unpacked and cleaned, if soiled. Now, the first cases of cholera were always in those individuals who had had to do with the infected things; then other members of the same family or the same household; and then the disease not seldom spread over the locality from this centre. Concerning the case quoted by Prof. Leyden, Prof. Hirsch said that in the town of Mühlhausen, in Thuringia, there were nine cases of cholera, four of them proving fatal in the cholera epidemic of 1873, all of which, with the exception of one case, belonged to one house. The house was inhabited by six families, numbering twenty-three persons, three of the families, numbering eleven, inhabiting the basement-floor. Behind the house was a drain of a closet, which was used only by the inhabitants of the basement, other water closets existing for the higher stories. The first case, which took place on August 26, was that of a woman who had come a few weeks before to Mühlhausen from St. Louis, in the United States of America, *via* New York, Hamburg, and Bremen, but had only received the things she had brought with her from America about the beginning of August. Amongst these effects were some soiled linen which she sent to be washed, and some confectionery, which she and her sister, in whose house she was living, partook of. A few days afterwards, the new comer was attacked with cholera; then the sister; her child and her grandmother also had severe attacks of diarrhoea, and soon afterwards cases of cholera occurred amongst the other families inhabiting the basement; so that, out of the eleven persons inhabiting the basement, only two escaped the disease, and four died of it; whilst from amongst the inhabitants of the upper stories, who had afforded the sick persons assistance, who also took charge of the old woman and child who had become ill, not one case of cholera occurred. That at the time when the effects left St. Louis cholera had been raging especially severely, in the quarter of the town, too, from which they came, has been accurately proved. The appearance of cholera in that house at Mühlhausen, where there had been no case till then, after the arrival of the luggage, induces the reporter of the case to believe that the specific poison of the disease was introduced with the baggage, and that the further

spread of the disease amongst those inhabitants of the basement who had not come into contact with the things was explained as infection from the closet used in common by the inhabitants of the basement, the dejecta of the first patient having been thrown into it.

Dr. KOCH asked what had been the longest time within which infection had been caused in well authenticated cases by clothes, etc.?

Prof. HIRSCH believed that at least five or six days was time enough for the effects to dry.

Dr. KOCH thought it would have been a matter of from four to six weeks.

Prof. HIRSCH did not lay any stress on the case in Mühlhausen, as the matter seemed to him to be very obscure.

Dr. KOCH said that the case at Mühlhausen could not be made use of at all, because it comes from a place where cholera was prevailing a short time previously. An interval of from four to six weeks between one case of cholera and the outbreak of an epidemic was caused by personal effects, was completely recognizable with Dr. Koch's views. That represented no permanent state. Dr. Koch possessed dried anthrax material which was still efficacious after twelve years. In small-pox, infection sometimes took place after a year or longer, and vaccine could be preserved in a dry state for years. That is what Dr. Koch meant by a "Dauerzustand," or permanent form. Linen packed together could still remain damp after the lapse of some weeks, and thus contain vital comma-bacilli. Dr. Koch had kept comma-bacilli alive for six weeks and longer in test-tubes, but they had assumed no permanent form, and, as soon as they were dried, they died. In favor of my assumption, it was remarkable that cholera never occurred on board ship, except during the first days after setting sail, on the usual merchant-vessels, which conveyed all kinds of things coming from cholera-regions, and ought properly to contain the infectious matter in one form or another. But in large transport-ships it was quite otherwise. The outbreak of the disease also began generally soon after the vessel had started, but was protracted afterwards for several weeks. These facts favored the view that the infectious matter in general died off very rapidly, and that it only retained life in man himself by constant infection from

one individual to another, opportunities for which occurred in every loaded transport.

Prof. VIRCHOW stated that if it were shown that cholera matter in reality lasted for years, like the poison of anthrax, we must seek a form of vegetation which had not been found hitherto, and which Dr. Koch believes cannot be expected.

Prof. HIRSCH observed that Dr. Koch considered that the period of existence of the cholera bacillus when in a damp state was indefinite, or at least not very limited in point of time. So Prof. Hirsch considered it possible, that at a place where cholera had prevailed as an epidemic, the bacillus could exist in damp surroundings, at a time when other conditions were unfavorable for its reproduction, and when the conditions become more favorable it could reproduce itself and cause a fresh epidemic outbreak of the disease. This would not be a question of metamorphosis, or of the formation of permanent spores, but solely of a latent state of the poison of the disease. This supposition was all the more justifiable, as Dr. Koch had acknowledged that damp soil was especially favorable for the existence and vegetation of the bacillus, and Dr. Hirsch's experience at Dantzig, in 1848 and 1849, made it very probable that cholera broke out again in the following year, at a place where it had raged as an epidemic, having died out when the cold season came on, and this without anybody being able to show the slightest possibility of a new introduction of the cholera poison. Dr. Koch denied that this represented a permanent state in the sense recognized in connection with other bacteria, and this question would not be included in the discussion of this thesis. A completely new question would have to be formed, and to be discussed as such, if we were to avoid confusion in the use of the term "Dauerzustand." After having seen that comma-bacilli could bear an extremely low temperature, and could exist apart from the human body, and could live for a long time in the test-tube with gelatine or on linen, he considered it possible that something of the kind could take place in nature, and that the comma bacilla could live in the form of a protracted growth in restricted conditions for some time in suitable places in the soil or elsewhere, without finding an opportunity for infection. In any case this was possible, but Dr. Koch had had no experience of it so that

he could not yet speak positively about it. In places from which cholera had disappeared, soil and water, and everything that could possibly contain the infectious matter of cholera, should be for some time thoroughly examined. Such investigations could not be made in Calcutta, as cholera never rested there. This question could only be solved in an epidemic in Europe, and he thought it was much to the purpose to moot it. Many of the facts discovered by Prof. von Pettenkofer could certainly be more easily explained now than hitherto.—[To be continued.]

TREATMENT OF SICK HEADACHE.—Dr. Richard G. Jack reports this instructive case in the *Lancet*, August 23, 1884:

Mrs. N., aged 26, married, two children, had all her adult life suffered to some extent at the periods, and also was troubled with what is commonly called "sick headache." She was treated by various doctors in the Western States of America, and at length she sought the advice of Dr. Thomas, of New York. He came to the conclusion that the only possible relief was to be obtained by removal of the ovaries; that she was then too much broken down for the operation; but after a trip to Europe had set up her health, he would, on her return, operate. I first saw the patient in June, 1883. She was then in the second day of the period, and under one of her headaches. These begin in one side of the head, and the pain gradually increases until the patient loses consciousness, the limbs become rigid, the hands clenched, the eyes half open and turned up, and shivering fits come on every few minutes. At other times the attack takes the form of spasm of the glottis. Seeing her first in one of her severe attacks, I introduced my hypodermic needle, and injected one-sixth of a grain of morphine. I left the needle in, and in seven seconds relief was obtained; but as it was not complete, at the end of five minutes I gave the same quantity, and withdrew the needle. The pain subsided, and did not return during that period, but the patient suffered from severe sickness, which lasted thirty hours. In a few days I ordered iron and quinine, with shower-baths, good food, and early hours. When the next period was expected, I gave belladonna and bromide of potassium. As soon as the period came on, I kept the patient in bed, applied a blister of the size

of half-a-crown over each ovary, and ordered a morphia pessary at night. The period passed over without a sign of pain or trouble. The tonic treatment was resumed, and the patient's health was steadily improved. The next period was anticipated a day or two with the belladonna and bromide, and when the flow began she was kept in bed the first day with half a mustard leaf over each ovary. No pain; period normal. On the next occasion, feeling the restraint irksome, and forgetting the date, the patient went to a theatre on the very night of the return of the period, and at 1 a.m. I was sent for. I injected one-third of a grain of morphia; the relief was instantaneous, and by increasing the dose to half a grain the sickness diminished. I tried the addition of atropine, but without effect. By persistence in the treatment, essentially the hypodermic, the patient is freed from headache, and no longer looks sick in mind and sick in body, having regained color in her cheeks. I have repeatedly seen the same good effect in ordinary sick headache, either from hypodermic injection of morphia or from a dose of chlorodyne.

NAPHTHALINE IN DIARRHOEA AND CYSTITIS.—For the last three years Prof. Rossbach of Jena has used naphthaline in all cases of diarrhoea that have come under his care. He concludes that it is of great service in all cases of chronic intestinal catarrh, with or without ulceration, attended by chronic diarrhoea, and in all cases the stools, in the course of from five to fifteen days, become of normal frequency and consistence.

Some of the naphthaline passes over into the urine, and the effect in the case of urinary troubles was noted to be exceedingly favorable. Pus, blood and vibrones quickly disappeared from the urine after its administration. It was given in doses of two or three grm. daily. After half a grain daily the appetite was often improved. —*Medical Press.*

SALICYLIC ACID, AS A PROPHYLACTIC AGAINST CHOLERA.—In a letter published in the *Bulletin gén. de Thérap.*, Dr. Beaudon says that his experience with salicylic acid as a disinfectant has been so satisfactory as to lead him to suggest that the drug be generally used as a prophylactic in case a country is threatened with cholera. He

proposes the following rules for its use: 1. Make a solution of ten grammes of the acid in two hundred grammes of alcohol; add a teaspoonful of this solution to a glass of water. 2. Bathe, wash the hands, and rinse out the mouth several times a day with this mixture. Let all flannel and woolen clothing be impregnated with it. These precautions apply particularly to physicians, who are exposed to the contagion. 3. Take a teaspoonful of this same solution with each meal. The objection may perhaps be raised, he says, that the microbe (if there is a microbe) will be taken in by the respiratory passages. He does not discuss this idea, but limits himself to the statement that, whatever may be the channel of introduction of the microbe, it will not find a very fertile field for development if the individual has used and still uses a substance which opposes the entrance and propagation of the poison.—*N. Y. Med. Journal.*

SURGERY.

EXSECTION OF THE FASCIA IN DUPUY-TREN'S CONTRACTION.—In an article in the *Wiener Medizinische Wochenschrift* of August 9th, 1884, Dr. R. Gersung describes a new operative measure used by him in the treatment of contraction of the palmar fascia. He makes a longitudinal incision of the integument over the prominent aponeurotic bands, and then, through the opening caused by the retraction of the skin, excises this part of the palmar fascia. The wound is then easily closed by a few sutures and dressed antiseptically. The advantages of this method, he claims, are that there are no thickened and knotty cords left in the aponeurosis, and further, that owing to the direction of the line of incision in the skin there is but little retraction of the tissues and the wound heals readily. —*Medical Record.*

MASKED SEPTICÆMIA.—Dr. E. Moritz, (*Schmidt's Jahrbücher*), relates three cases of septicæmia in which the symptoms were of an unusual character, leading at first to the diagnosis of some other condition. In the first case the patient complained chiefly of headache and pains in the limbs. The body was covered with numerous petechial spots. It was supposed at first, owing to the peculiar temperature curve, that the case was one of relapsing fever, but a daily

examination of the blood failed to show the presence of spirilli. The diagnosis of septicæmia was then made and this was confirmed by the autopsy. The second case was supposed to be one of diphtheria, though the probability of septicæmia was recognized before death. In the third case the symptoms seemed to point to a commencing small-pox. In all these instances the autopsy revealed small sub-pleural ecchymoses, septic endocarditis, a large softened spleen, and parenchymatous degeneration of various organs. The points of infection seemed to have been: in the first case a large clavus on the sole of the foot; in the second a diphtheritic inflammation of the pharynx; and in the third case extensive submucous extravasations in the small intestine.—*Medical Record.*

OAKUM AS A SURGICAL DRESSING. (By Robert Leslie, M.D., Belfast, in the *British Medical Journal*.)—Oakum is made from old ship's rigging which has been soaked in tar, and then reduced to its original state of flax or hemp.

During the American war oakum was extensively employed in the field hospitals as a surgical dressing. The first account I find of its use in England is from the *Lancet* of 1870. At that time it was used in the Ormond Street Children's Hospital and in St George's Hospital. During 1870 Prof. Lister put the antiseptic qualities of oakum to the test.

Eight years ago I commenced to use this dressing in the Children's Hospital. Since that time oakum has been in use in all the hospitals of Belfast, and by some is now considered indispensable. I have been using oakum for burns, erysipelas, ulcers, abscesses, and many vaginal displacements; and I think it the best ready-made dressing we possess. One of its advantages is that it keeps down offensive odors. The serum from a wound is drained as it is discharged, and pleasant tarry smell is a great contrast to the offensive odor common in connection with lint.

In amputations it forms a soft and comfortable pad for the stump, and is a good vehicle for the application of antiseptics. In the treatment of abscesses it takes the place of a poultice by dipping it in warm water and covering with waterproof tissue. Its application, after opening an abscess, permits the easy escape of pus, and is conducive to quick healing. In erysipelas I en-

velop the affected part in oakum, and with such good result that I do not seek another agent.

As a dressing for burns and scalds I look upon oakum as invaluable. It may generally be applied to the granulating surfaces with impunity, and is more easily detached than almost any other dressing. I thus account for the fact: when a fibre of dry cotton is placed beside a fibre of linen under the microscope, you perceive that the cotton is round and smooth while the linen is sharp and angular but on the application of water the case is different. The cotton fibre is found to twist in a spiral manner, while the linen fibre remains unmoved. It is a popular theory that cotton does not form so good a dressing as linen, and this hygroscopic difference may account to a great extent for their difference in behavior when applied to moist surfaces, and the ease in removing linen.

In uterine and vaginal affections oakum can be turned to good account. The healthy effect of this tarry substance applied to the mucous membrane of the vagina is most remarkable. A tonic effect is produced, and the unhealthy discharge absorbed. In prolapse and other displacements of the uterus when it is difficult or impossible to get pessaries to relieve, you can secure twenty-four hour's respite to your woman by filling the vagina with oakum, and by dipping the first plug in glycerine you gain immensely in cases of subinvolution from the quantity of fluid extracted.

To sum up: oakum is a handy, healthy, and cheap dressing. It is easy to apply, and I think it is antiseptic in the sense of forming a barrier to the ingress of germs to the part to which it is applied. Tar is itself a wholesome agent, a substance of complex composition. It contains creasote, turpentine, paraffin and eupione, and is obtained by the destructive distillation of *pinus sylvestris*. Carbolic acid has largely taken the place of the cruder compound, but Dr. Whittle says the virtues possessed by tar are not equally enjoyed by its more fashionable rivals. In oakum we have a form of tar dressing which I recommend to those engaged in hospital work.

EFFECTS OF REMOVAL OF THE THYROID GLAND.—Dr. Zesas claims (*Wiener. Med. Wochens.*) that the thyroid gland is supplementary to the spleen in its hæmatopoietic functions and that its removal is followed

by an excess of white corpuscles in the blood. From experiments upon animals, the statement is made that removal of both the thyroid gland and spleen invariably causes death.

It is also said that thyroidectomy is followed by nervous disorders, without actual paralysis, but with sluggish movements, fibrillary contractions, tremor, and even tetanus. Zexas therefore denounces the operation as an unjustifiable one.—*Medical Times*.

Society Reports.

REPORT OF THE TWELFTH ANNUAL MEETING OF THE AMERICAN PUBLIC HEALTH ASSOCIATION.

Held in St Louis, October 14, 15, 16 and 17, 1884.

[Reported for LANCET & CLINIC.]

Continuation of First Day—Morning Session.

HYGIENE OF OCCUPATIONS.

The next regular paper was by Prof. G. H. Rohe, professor of hygiene College of Physicians and Surgeons, Baltimore, entitled "The Hygiene of Occupations." It was one of the most interesting papers read and occupied itself with a discussion of the relative longevity of men in different professions and pursuits. Prof. Rohe based his assumptions on the following table, which shows the occupations by classes, and average age at death of 144,954 decedents in Massachusetts from May 1, 1843, to December 31, 1874—a period of thirty-one years and eight months.

Occupations.	Number of persons.	Ave. age at death.
All classes and occupations,	144,954	50.90
Cultivators of the soil,	31,832	65.29
Active mechanics in shops,	16,576	47.57
Inactive mechanics in shops,	17,283	43.87
Laborers—no special trades,	28,058	47.41
Factors, laboring abroad,	7,035	36.29
Employed on the ocean,	8,814	46.44
Merchants, financiers, agents, etc.,	15,965	48.95
Professional men,	5,175	50.81
Females,	3,343	39.13

DR. ALT'S REMARKS.

DR. ADOLPH ALT, St. Louis, Mo., editor of *American Journal of Ophthalmology*, read a paper entitled "Protective Spectacles for Workingmen," in which he showed the danger that existed constantly of chips flying off and striking the eye of the employee. The doctor mentioned the effects that would follow if a chip entered different parts of the eye and showed that very often total

loss of the eye followed. The agony caused a wounded man by the efforts of fellow workmen to extract the chip were also commented upon. It is often the case that by sympathetic ophthalmia the other eye is lost also, and families are thus left without the means of support. This sympathetic ophthalmia occurred in many causes when the injured and entirely useless eye was not removed; the wife most strenuously objected to such operation being performed on the husband, until by sympathetic action the other eye was lost also. Mica spectacles would remedy all this, and had already reduced the liability in Germany where they are in common use. Dr. Alt said employers should be made to pay all damages arising in cases where they did not insist on their workmen wearing spectacles.

HEATING AND VENTILATION.

DR. CHAS. CURTMAN of Missouri Medical college read a paper devoted to the discussion of the above subject. He considered the philosophy of heating and ventilation and then proceeded to mention the various modes in general use. Hearths, stoves, steam pipes, water pipes, hot air, porcelain ovens and other devices were all thoroughly examined with relation to their economic and sanitary value. The defects in each were alluded to with the best way to remedy them, and the hot air method was selected by the reader as being of the most utility.

The next paper was entitled:

THE SANITARY MANAGEMENT OF CARS AND STATIONS.

And in the absence of the author, Acting Assistant Surgeon W. Thornton Parker, U. S. army, Fort Union, N. M., was read by Dr. Conn. The article treated on the dangers of the present system of passenger traffic on all railroads whereby healthy persons were brought into close contact with people suffering or just recovering from contagious diseases, often of the most virulent type. The panacea for this danger was a system of sanitation on all large railroads and the general introduction of hospital cars.

The concluding papers were warmly discussed by various members, after which the meeting adjourned until eight o'clock in the evening.

Evening Session.

At eight o'clock, p. m., the convention again assembled and, after a couple of selections from the Orchestra, Mr. George

W. Parker, president of the city council and chairman of the reception committee, arose and stated that he was not there to speak but to introduce those who were to speak. He then introduced to the convention Mayor Ewing.

THE MAYOR'S REMARKS.

"Mr. President, Ladies and Gentlemen—

There can be no topic for consideration more important to humanity than that of health, and the sanitary measures to be adopted and prosecuted for its preservation. These topics have become an important factor in the discussions and reports of the sanitary organizations of the civilized world. Not only have cities and states of the Union regularly constituted bodies for sanitary conference and work, but the federal government lends the power of its influence and material aid, as well as the experience and personal co-operation of the sanitary scientists connected therewith, for the furtherance of the purposes to be attained. Thus through intelligent conferences, and an exchange of positive experience, a general knowledge may be acquired, and definite plans for a general sanitary system may be consummated.

"This national association, in their praiseworthy efforts to fulfil their mission and perfect the details so important to the proper conduct of their labors, exerts an influence which is felt throughout the country, and the proceedings of this annual convention will be carefully considered by all who have a proper appreciation of the great importance of the matter committed to your charge. The people of St. Louis welcome you, and I am gratified to have been commissioned by the committee in thus expressing to you the kindly feelings with which they will receive you and every endeavor will be made to render your stay in our city a pleasure, as well as a season of the interchange of profitable experiences."

GOV. CRITTENDEN'S ADDRESS.

MR. PARKER then introduced to the convention Gov. Crittenden. The governor said it afforded him great pleasure, representing the people of this great state, to welcome their delegates to Missouri. Representing the people of this state he bade them welcome. He spoke of the importance of the labors of the convention to the people of the state. They were not restricted by any ethics. He did not want to reflect on many reputable physicians who were bound by ethics, but the scientists'

society had broader views than any school of ethics. Any sawbone might amputate a limb, and they never missed an opportunity. This society, however, discussed higher questions. They discussed matters regarding the public health. Many poor people lived in illy ventilated rooms, and these people and their children were entitled to the best efforts of the people to care for their health. What means should be adopted in order to have immunity from infectious diseases? Should Asiatic cholera visit this country next season, as is feared, the importance of the scientists' discussions could not be overestimated. In times of peace prepare for war. He then spoke of the brave act of king Humbert of Italy in cholera times in the plague stricken city of Naples when he buried the dead, comforted the dying and exhorted the fugitives to return to their homes and their people. His example and remarks had the effect of making the people return and give battle to the dread disease. The speaker said that while they might not be able to prevent cholera or any other disease, they could divest it of many of its terrors. He was sure that when he bade the delegates welcome he voiced the feelings of everybody on this earth. Two humanitarian conventions were now in session in this city, the one to discuss means of preventing disease and the other to discuss methods of preventing crimes and vices. How glorious it was to have two such conventions running at one time in one city? The investigations of the great men of these people became common property. Men who made discoveries in this way and gave them to the world were greater heroes than Napoleon and such men. The convention came to them as the Good Samaritan, instructing them so that they could avoid their dangers. A few years ago, when a scourge was sweeping over the country their efforts had arrested its progress. A dreaded scourge was now visiting the people on the other side of the water, but their coadjutors over there were no less active in their efforts to prevent the spread of this terrible disease. Some years ago when the South was afflicted a young doctor of this city gave up his life in his efforts to save the people of that section from the dreaded scourge. The governor closed by again bidding the delegates a warm welcome to the state.

PAPER OF DR. ELLIOT ON SANITATION.

Mr. Parker said he regretted to announce

that Dr. Eliot, who was down to address the meeting, was too ill to be present himself, but the doctor had sent his son to read the paper he was to have delivered. Young Mr. Eliot said his father had intended up to a few hours previous to be present, notwithstanding the poor condition of his health, but at the last moment had decided not to, and sent him there to read the address. The speaker then read the address. In it Dr. Eliot expressed his sympathies with the labors of the association. The work of the convention was of the greatest importance. Cleanliness was next to godliness. In the illy-ventilated houses of the poor sobriety soon gave way to drunkenness. Perhaps no city in the union had experienced more good from improved sanitary regulations than St. Louis. As he remembered it in 1820 there was hardly a dry cellar in the city. It was no wonder then that Asiatic cholera took a firm hold here in 1849. The death list ran up to 1,200 in a single week during the scourge and this in a population of only 50,000. The dying were cared for and the dead properly buried. A fire broke out and it was thought it might relieve the city of the scourge, but it only made matters worse. The city in all its suffering asked no help from abroad, but bore its own burden. The death rate in the early days of the city was very great, but improved sewerage and sanitary measures had made it what it now was one of the healthiest cities in the world. There was room for improvements, of course, and he hoped the improvements would be made.

REMARKS OF DR. GREGORY.

DR. E. E. GREGORY, president of the state board of health of Missouri, was introduced and after a few humorous remarks on the length of his title on the programme, he said:

*"Gentlemen of the American Public Health Association—*As a representative member of the Missouri state board of health it is my proud privilege to tender you the hospitalities of our state and city. Every movement having for its object sanitation, is important to all mankind. Standing in the front rank in this regard is a knowledge of the causes of disease. I never contemplate disease causation without a sense of humility; the reflection alone comforts me that the difficulties of the subject are simply insuperable. Certainly the greatest minds and the most indomitable industry have

been expended upon it with the most unsatisfactory results. Until the causes are known prevention is out of the question. 'Prevention' is the highest ideal of the sanitist. This is the lofty purpose of your organization. Hence we welcome you not as philanthropists of ordinary pretensions, but as votaries whose aim is so exalted that the object proposed cannot be accomplished till all the possibilities of science have been attained. Again, with the assurance of a hearty welcome, coupled with the hope that the deliberations of the meeting may be equal to your most sanguine expectations, God speed the good work."

PRESIDENT GILSON'S ADDRESS.

DR. A. L. GILSON then delivered the opening address, taking for his subject, "The Sanitary Responsibilities of the Citizen." He said by way of introduction that the child being father to the man it was natural that there should be many of childhood's traits manifested by its whiskered offspring. As the ordinary juvenile regarded his teacher as the arch enemy of his independence, comfort and pleasure his adult descendant likewise instinctively rebelled when he was told what he must not do. With the invalid's chuckle of satisfaction when he threw the physician's potion out of the window as soon as the father's back was turned, he defiantly determined to do the one and not the other. Conscience, therefore, of the doubtful welcome awaiting anyone who performed such ungracious offices, the speaker felt some difficulty in assuming the task of introducing the body of sanitary teachers he had the honor to represent, to a community to whom they were as yet strangers. To make the prospective dose still more unpalatable it was offered to the assemblage, he said, in the form of a presidential address.

After alluding pleasantly to the nature of the task before him, the president said that the past year had made sad havoc in the ranks of the association. Five members of the advisory council were among the dead: Elisha Harris of New York, a founder of the association and former president; Chas. A. Chamberlain of Hartford, Conn., secretary of the state board of health of Connecticut; Robert I. Farquharson of Des Moines, formerly an officer of the medical corps of the U. S. navy and since secretary of the state board of health of Iowa; John Taylor Gilman, M. D., of Portland, Me.; and Dr. Hillary Bryan of Texas. Fallen with them

on the field of duty were Brig.-Gen. John M. Cuyler of the medical corps of the U. S. army; Prof. Willard Parker of New York; Prof. Samuel D. Gross of Philadelphia and Dr. Frederick D. Lente of New York, who joined the association in 1874; Dr. Warren Stone of New Orleans, a member since 1880, and two of the latest recruits, John J. Holbrook, C. E., of New Hampshire, and Wm. F. Sheenan, M. D., health officer of Rochester, N. Y. One other name was added to the list of honorable dead, that of Lieut. Col. Joseph Janvier Woodward, surgeon in the U. S. army; one of the original members of the association until the darkness that enshrouded his mental powers shut him out from the living issues of the world in which he had done so active and meritorious a part.

After paying tribute to the memory of the deceased and speaking of the work of the sanitarian, the president said the Public Health association denounced intemperance in every form and counseled temperance in all things. It showed how crime was begotten by sin, sin by disease, disease by filth and filth by ignorance, but it did not seek to dispel ignorance, remove filth, overcome sin and punish crime by manacling the thinking man with irons and binding him with thongs that cut into the flesh and deprived him of freedom to act. The health of the community was only the health of individual members and health was only that condition of well-being, well-feeling and well-doing of each man, woman and child which enabled him or her to enjoy pleasure and communicate it to others—to be happy and make others happy. The president spoke eloquently of the human form divine and the necessity of its proper care and cultivating, developing, improving and beautifying it. The first step towards the improvement of the public health was the physical purification of the individual. The association came to St. Louis in the hope of awakening in its citizens that interest in their own welfare which they had no right to disregard. He called attention to the comparative mortality of various nations, and spoke at length of the necessity of proper drainage and ventilation and care in removing filth from about residences. The adulteration of food was touched upon and some interesting facts given regarding tainted and diseased meats. The "farce of street cleaning" was alluded to as a most productive cause of disease.

The means of improving the health of those who lived in cities, the president said, was simple. They should organize, and by concerted, systematic work much good could be accomplished. He had no special plan of organization to suggest, there were many roads to Rome; one should be chosen and all should travel together; in time the shortest and safest road would commend itself. The organization of the first state board of health was alluded to and the increase in the number of boards, as well as their effective efforts, was described. He spoke at length of the methods that should be adopted by the state boards to secure good results, and followed with a resume of the cause of epidemics in the past ten years. This portion of the address was particularly interesting; in fact, the address throughout was filled with most valuable information regarding sanitary measures and the methods of preventing the spread of disease. In conclusion he said: "Nature is wasteful, germs of all living things are born in needless profusion and finished unnumbered with the forest leaves, and the myriad swarms of the microscopic world. Only the fittest ultimately survive and it should be our aim not merely to add a span to each poor puny life, but to make the strong stronger till the evolution of the race into the highest order of which humanity is capable shall have been accomplished. Every human being cannot be made to live three score years and ten; some are doomed from birth to prematurely die and we cannot save them, but we can and ought to save those that have a right to live who are now slaughtered in hecatombs by preventable diseases."

The evening's exercises closed with a march by the orchestra, when the association adjourned until 9 A. M., Wednesday.

Second Day—Morning Session.

The morning session of the second day's proceedings opened with several papers on hygiene, abstracts of which were published in our last issue, upon which the following discussion occurred.

DISCUSSION.

Dr. Raymond, of Brooklyn, opened the informal discussion of the papers. He said too much attention was paid to the public and too little to the private schools. One trouble is that private houses are often used as schools, and contagious diseases arising in the family are suppressed, because the

publication of the matter would close the schools. The same danger exists in public schools where the janitor and family live in the building. A rule should be made prohibiting anyone living in the school houses. In Brooklyn no child, recovered from a contagious disease, is allowed to return to school without a permit from the proper sanitary officer.

Hon. Erastus Brooks of New York said that sanitary education was just as important as mental education. Seven million children attended the schools of the nation, and there were 224,000 teachers, besides the private schools. In New York there are 11,000 schools and a much greater number of teachers. The state of affairs in Indiana is perhaps no worse than in other states. The trouble is that school commissioners are politicians.

Dr. Thompson of Kentucky said that he had never seen a school house ventilated properly in Indiana, New York or Kentucky. Children are crowded into school rooms, tortured by teachers, and such conduct sanctioned by parents. Children are often murdered by having to climb steps three or four times a day. Tall school houses are especially injurious to girls, and the evil effects are felt throughout life.

Dr. Reed of Ohio painted some of the evils of country schools in Ohio, low ceilings, poor windows, water from a well near which animals made themselves perfectly at home—nothing to prevent disease from breaking out. He thought an epidemic of the mumps once originated in the very unhealthy state of a school, and he himself was the first to catch the disease.

Dr. GIBON never entered a school without detecting the mawkish odor of overcrowding. He remedied the matter by admitting fresh air without creating a draft. The injury done by bad printing has not been overestimated. Most study at home by poor light, hence it should be interdicted.

Dr. J. H. BRYCE, of Toronto, said that when the schools of his city were well ventilated, disease diminished. Fifty per cent of sickness reported in Hamilton was due to colds—caused by bad air.

Dr. BELL of New York said it was the easiest thing in the world to get cold air into a room. If we had to choose between cold air and bad odors, we prefer the bad atmosphere. Cold air comes into a room making the floor cold and stirring the dust,

when ventilating flues are put near to the floor.

Mr. L. A. SMITH of Washington said that Professor Packard of the Bureau of Education was preparing a series of questions to be sent to all the teachers of the country on the subject of school hygiene. Questions in regard to room, lighting, building, sunlight, climate of rooms, and other essential points were included.

Dr. CONN of Concord, N. H., said that oral teaching is the best. With less study and more recitation there, there would be less ill health among young school-children.

Dr. EARLY of Indiana said the American idea was that children should start to school as soon as they can toddle, before the child is physically or mentally fit. Ten years of age was the earliest period at which a child should be sent to school. He knows of no school or other public building which is properly ventilated, and that is the chief trouble.

Dr. FEE of Kansas City said that all papers on the subject of myopia were written by oculists. Diseases which affect the nutrition of the brain and eye have not been placed among the causes of myopia, and he protested against it all being blamed on the school houses.

Dr. DEVRON of New Orleans said people desired to get rid of their young children and thus save a nurse. The rich desire to be free from their noise and annoyance. When the rich can be forced to keep their children at home, and houses are established where the babies of the poor can be kept during the day, much will have been accomplished. School Boards should be composed of representative men—educators, workmen and sanitarians.

Dr. GREENE of Pennsylvania discussed the inequality of school government in the different states.

Dr. HIBBARD of Richmond, Ind., spoke of the pollution of wells and springs by proximity to cemeteries.

POISONOUS CHEESE.

Professor V. C. VAUGHAN, M. D., of the Michigan State Board of Health, read a paper on the above subject. It is well known that severe illness sometimes follows the eating of cheese, especially in North Germany and America, but in France there are no such cases. In Michigan over three hundred cases of cheese poisoning have been reported within the last six months. The

symptoms are dryness of throat, nausea, vomiting, diarrhœa, headache and double vision—the symptoms of gastro-intestinal poisoning. No fatal cases have been reported. Six deaths occurred in 343 cases in Holland in 1874, a little over two per cent. Cheese hurtful to man may be eaten by the lower animals without danger. A cat once ate without injury cheese that poisoned thirty people. Coloring cheese with anato may perhaps be looked upon as justifiable adulteration. Samples of cheese that had poisoned many people indicated the presence of acids. Microscopic examination revealed the presence of a spherical bacillus subtilis which did not affect a cat when injected beneath the skin. Only poisonous cheese violently reddens litmus paper, and this is an easy test which every grocer ought to try when he cuts a new cheese. The following are the conclusions:

- 1 The toxic material in poisonous cheese is a chemical compound readily soluble in alcohol.

- 2 This poisonous material is due to the rapid growth of the bacillus subtilis.

- 3 The difference between poisonous and non-poisonous cheese is one of degree and not of kind.

MILK SUPPLY OF CITIES,

by J. C. HARRIS, of Philadelphia, was the last paper read. The failure of the wheat crop would be less serious than if the milk supply were cut off. Is it pure or foul; does it contain the germs of scarlet fever, diphtheria, or other diseases? These are the great questions. The profits are so small that the farmer skims the milk in order to get even with the middleman. Milk kept for fifty hours is sold as new, and of 400,000 gallons of milk sold in New York, 120,000 gallons were water. Swill-fed cows are another cause of impure milk, but the detection of adulteration is so difficult that it is almost impossible to punish the criminals. The young children suffer most, and in New York 3,694 children under five years old die every year. Most of these deaths are from diarrhœa due to adulterated milk. Adulterations are made by the middlemen. In 1873 the death rate was 48 per cent. in 1883 the it was reduced to 40 per cent. Out of 1000 analyses of milk, two thirds were deficient in cream. Investigation shows that the producers were honest but poorly paid, the large shippers were not to blame, but the middlemen were the adulterators. At least one fifth of the deaths of children under five

years are directly traceable to bad milk, so that in 1882 at least 25,000 lives could have been saved had the milk been properly inspected. The death list of children in St. Louis last year amounted to 3,500, and at least 700 of these could have been prevented. Dairy companies are good institutions, and the shipment in quart glass jars from the producer directly to the consumer, and the advanced price is gladly paid by the inhabitants of the city. The jars are carefully sealed twenty, in a box, and sent to the city for distribution. The milk must be clean because the dirt would show in glass jars. In the forty-gallon buckets used by milkmen the filth that accumulates at the bottom is something terrible, but we cannot see it. This dirt must produce intestinal irritation. Each customer receives a quart of milk with his exact proportion of cream. The system has been a great pecuniary success with the author, and with others in Paris and other cities.

Dr. DAVENPORT, milk inspector of Boston, related the difficulties of the authorities in opposing the sale of skimmed milk for whole milk.

Dr. STERNBERG, U.S.A., approved the conclusions of Prof. Vaughan on poisonous cheese.

Dr. ABBOTT of Boston recounted the 25 cases of cheese-poisoning reported in Boston, and said he was happy that a simple means of detection had been found. The symptoms were much like those of cholera morbus.

Dr. RAYMOND of Brooklyn said he had met two cases of cheese poisoning and he thought Dr. Vaughan's test a good one. He thought there were other causes affecting infant mortality as much as impure milk, varying temperature being among them. The dealers also were responsible for the adulterations.

Dr. REED, Ohio, found that the cases of cheese poisoning in his state were much like those of persons sick from eating fermented fruit. The poisonous cheese was over-fermented and not pressed dry, and it is doubtful whether bacteriæ are the cause of the poisoning. He thought fermentation was the cause of the trouble.

Dr. NEWTON of New Jersey gave a very interesting account of the effort of the Inspectors in his state to secure good milk. Dr. Comstock of St. Louis concluded the debate, whereupon the Association at 2:30 p.m. adjourned till 4:30 p.m.

Afternoon Session.

The business of the afternoon was reports of the state boards of health on cholera.

REPORT ON CHOLERA.

•Dr. McCORMICK, secretary of the conference, made the following statement:

"There has been a growing feeling with some of the leading practical sanitarians of the country that the American Public Health Association should be brought into closer relations and harmony with the health officers of the states. This course seemed the more needful in the last few years in consequence of the failure of the general government to maintain a health service. During the last meeting of this Association in Detroit arrangements were made for a meeting of representatives of all the state boards of health in the Union to meet at Washington for conference upon this subject. Of the twenty-seven state boards of health eighteen sent representatives to the conference, and after deliberation it was

"*Resolved* that there should be a conference of officers and other representatives of state boards of health during the meetings of the American Public Health Association and at other times if so desired. All questions should be determined by vote by the states, each state being entitled to one vote.

The officers shall be a chairman and a secretary."

Hon. Erastus Brooks of New York was elected chairman and Dr. J. N. McCormack secretary for the ensuing year, and after discussing various questions peculiar to the work of state boards the conference adjourned to meet at this place.

On the outbreak of cholera during the summer, and at the instance of several state boards, the chairman called a meeting at Washington for August 7, especially to consider means to prevent the importation and spread of the disease in this country. The subsidence of the disease in Europe and other reasons induced the postponement of the meeting until this time. At the present meeting five more state boards became members of the conference, as well as representatives from the provincial board of Ontario and of the Dominion of Canada. The conference has thus far mainly confined the work to the consideration of the cholera question, and after hearing able papers on the subject, has appointed a committee to put in succinct form its views as to the best methods of combatting this disease.

The report submitted stated that it was the sense of the conference that the government should establish quarantine at all sea ports, the establishment and maintenance of health officers at foreign ports to give telegraphic warning of the approach of contagion or the departure of any vessel suspected of being infected. Intelligence of the approach of all epidemics should be promptly forwarded. It was further recommended that in those European ports where the United States had no consular agencies or in which there was no telegraph service, visiting health officers be appointed; that co-operation with Canadian authorities be encouraged, and it was recommended that congress legislate upon the subject at the coming session. The expenses of the establishment of stations should be borne by the national government as the whole country is interested in the exclusion of infection. Congress had recognized the necessity of national action in yellow fever epidemics and in 1879 had appropriated \$500,000 for the proper treatment of the plague. Cholera was communicated by persons and merchandise, and when any one was found suffering from the infection they should be isolated. The committee recommended an adjournment until the second Wednesday in December, and that the health authorities present be requested to communicate to the conference the status of their respective districts.

The report of the conference was accepted and discussion by states followed.

DR. E. N. HUNT, Trenton, N. J.: The report is an excellent one, but if we have to go before the country we have to do more than is set forth in the report.

DR. GUS. DEVINE, New Orleans, informed the assembly what the city of New Orleans would do in case of an epidemic. The city council had already passed a resolution that the public health commissioner should have the power to concentrate his men at any point to fight an epidemic; while no specific fund had been appropriated at present, the city had ample funds at hand when such resources were needed.

DR. P. THOMPSON, Henderson, Ky., said a quarantine was one of the hardest things to establish, and harder still to maintain. Every wagon road and every railroad acted inimically to quarantine, and it would take every man in the United States to quarantine against New York, for instance. He thought the national government alone could

combat the epidemic by keeping it away from the country, and that no state or municipal body had equal power.

HON. E. BROOKS moved that the paper read from the conference be printed and sent to the various federal officers, senators and representatives. There were many theories of the causes of cholera, but people were a unit as to its effect. It was the work of the national government to fight it, and of the state boards to aid in the fight. Public attention should therefore be called to the matter, in order to awaken the representatives of the states assembled at Washington. The American quarantine system was as unlike the European system as night was unlike day. The system of Europe was brutal, cold blooded, unnatural and unnecessary; the American system was merely the proper care of persons and goods, possibly infected. There ought to be no prejudice therefore against the quarantine system in vogue in the United States.

MR. BROOKS' motion was unanimously carried.

WANT MORE LIGHT.

DR. HIBBARD, of Indiana, said there should be a revision of methods of cholera cures in use three years ago. He, therefore, offered the following resolution:

WHEREAS, within a few years, there has been a large increase in the knowledge of disinfectants, antiseptics, and germicides, both abstract and practical; and

WHEREAS, it is important equally for practitioners of medicine, for boards of health and for the general public, that the highest attainments of science in this department of sanitation should be formulated for easy reference by all who need it for practical application, and especially was this desirable in view of the probable visitation of cholera in the near future; therefore be it

Resolved by the American Public Health association that a committee be appointed to examine the subject of disinfectants, antiseptics and germicides in their relations to preventive medicines and sanitation, and that said committee formulate a table of these agents for the information of those interested, the agents to be classified so far as may be deemed advisable according to their specific virtues, facility of application and economy of use.

This resolution having been discussed at some length was referred under the rules to the executive committee.

THE WORK OF THE STATE BOARDS.

Reports from states in reference to the work of the state boards were then called for. Delegates generally reported that they were doing their utmost to place their states in the very best possible sanitary condition.

DR. McCORMACK announced that in Kentucky they were devoting much attention to the instruction of the people in sanitary subjects, and school children in the elementary principles of sanitary science.

DR. S. S. HERRICK, of New Orleans, described the quarantine regulations which had been established in Louisiana. With regard to cholera the board of health adopted resolutions ordering the detention of vessels from cholera infected ports at the pleasure of the board.

DR. C. W. CHANCELLOR, of Maryland, said their board had been diligently engaged in the work of placing the state in a good sanitary condition. They had also done a good deal in the direction of educating the people in matters of sanitation and in leading them to believe that there was more virtue in prevention than in cure. They were sanguine that beneficial results would follow this departure.

DR. G. P. CONN, of Concord, N. H., said the state board which he represented had accomplished a good work and had been heartily sustained in its labors by those whom it was intended to benefit—the public.

DR. E. M. HUNT, of New Jersey, lauded the work of his board and observed that on the matter of vital statistics the returns were very satisfactory, except from the large cities, where considerable difficulty was experienced in getting returns of births from the larger states.

HON. ERASTUS BROOKS, of New York, spoke of the necessity of the intervention of some federal power to secure the abatement of nuisances in the adjoining states. Chemical works, or other manufactories of an objectionable character might exist in New Jersey on the other side of the river which no persuasion from New York would succeed in removing. In New York the state board sought to effect more by persuasion than coercion.

Delegates from other states also made their reports and the session was adjourned to 8 P. M.

Evening Session.

The evening session was called to order

at a quarter after eight, with a good attendance of members and their ladies. The first paper read was that of Hon. Erastus Brooks, of the State Board of Health of New York, second vice-president of the Association, entitled "The Food we Eat, the Liquids we Drink, and the Adulterations to which we Submit."

ADDRESS BY HON. ERASTUS BROOKS.

"If men are fearfully and wonderfully made there is nothing more marvelous in the form of this creation than the character or substance of the food they eat. In this food there is carbon serving as a fuel for the support of animal life; and carbon with hydrogen, oxygen and nitrogen make the four essential elements of human life. Phosphorus, sulphur, chlorine, sodium, potassium, calcium, magnesium, iron and fluorine are but of secondary importance among the primary elements. In all these, which the animal and vegetable kingdoms provide, the sustenance of our daily existence is found. They give strength to the limbs, flesh and blood to the frame, and muscle to the whole body.

"Carbon, with a little hydrogen and oxygen, the chief constituents of our food, compose the alimentary support found in butter, suet and in all these fatty or oily elements which become part of every healthy life. The flesh, blood and bones need the phosphates derived from animal and vegetable food. The iron in our blood is obtained chiefly from the meat we eat, and traces of iron are found in milk, eggs and in almost all kinds of vegetables. The elements I have named are parts of one great whole, and in the food we eat their mixture is necessary to prevent waste and decay. Using any one of them alone, which is almost impossible as the combination is practically a necessity, the human system would lose about all its forces.

"These elements make blood and cause nutrition. There is in them the power of respiration, and there is no real life without them. The saccharine qualities, as water and sugar, the oleaginous representing butter, nitrogenous representing albumen and salts, the aqueous representing water and other fluids include and conclude all sources of supply. Water in quantity, if not in variety and quality, holds all these elements. Nine-tenths of the milk we use is water. Uncooked beef contains 70 or 80 per cent. of water, and many vegetables have even a larger percentage of fluid; but

while this is true, milk is almost the only fluid that supports the human body. This fluid, beside holding water in greater proportions than almost anything else, represents sugar and casein which, in close alliance with albumen and butter, represent in food what is oleaginous. The proportion of these ingredients in human milk are ten parts of casein which makes blood, ten parts of butter or fat, twenty parts of carbohydrate or sugar and a tracing of salt.

"For infants and adults alike, physiology has proved in recent experiments that casein and albumen are the essential producers of blood, and we all know what this fluid performs in the work of rebuilding and strengthening the human frame.

"The combinations of the several groups of human food are: Aqueous, saccharine, oleaginous, albuminous, gelatine and saline. The best recognized teachers of the qualities of food remind us what is necessary to make up the deficiencies in the wear and tear of life, if we would preserve the necessary fires of animal existence. With constant waste in one direction, the necessary daily food to prevent this decay is required as the needed balance to preserve life."

The lecturer then went on to say that digestion depends largely upon what we eat. The quantity is oftener too much than too little. In the army and navy, in the hospitals and prisons especially, the quantity is prescribed by pounds and ounces and based upon the work done by the consumer. The proper cooking of food is one of the fine arts, and mental happiness is largely dependent upon well-cooked food, and the important and essential part of a true domestic home is the kitchen.

The most palatable and beneficial of our varied kind of food is milk. Adulterations are found in much that we eat, drink and wear; and, as a general rule, we may abandon all stimulants and most condiments, except when prescribed by a physician. The extent of food adulterations is one of the worst signs of the times. No country is free from this public evil, and it is next to impossible to reach and punish these abuses. Coffee has been adulterated until in some instances there is not an ounce of coffee to the pound, and three-fourths of the teas sold are impure. Milk is adulterated in many ways, some of which are very injurious, and spices are

notoriously largely adulterated. The adulteration of drugs demands the attention of health authorities. In spirits, especially in wines, the adulterations are much worse than in coffee or general articles of food, and in 1881 fifty-six per cent. of 3,361 samples of wine examined were found bad, and six per cent. dangerous. Butter should come from the dairy and not from the fat of animals; and in New York forty millions of pounds have been sold in the State in a single year. In Bavaria recently an inspection resulted in the condemnation of 33 breweries, and in fines ranging from \$50 to \$250 each, and three other brewers were sentenced to eight months imprisonment. Glucose may be harmless enough, but when 35 and 50 per cent. are mixed with honey and maple sugar, the deception is palpable and flagrant. Most kinds of oil are more or less adulterated and the chief fraud is in calling oils by wrong names. Cheese is adulterated with potatoes or bean meal, and the rind has at times blue vitriol and arsenic to give it the appearance of age. Other poisons are used to give the cheese a biting flavor, and lard cheese is made at twenty-three factories in New York. Sugars are much less adulterated than formerly, and adulterations are now limited more to glucose than formerly. The paper then concludes as follows:

"There are before me authorities showing the extensive and carefully planned adulterations in butter, alum, borax, barium, curd, fats, flour, gypsum, lard, lead chromate, yellow potato flour, salt, sodium, silicate or soluble glass, soapstone, starch, etc., French, German and English authorities, name all these uses and abuses. Lard or cheap fats are common adulterations in England as in the United States. Where (see letters of W. A. Croffert) loads of sacks filled with peas and beans are ground and sold for coffee and the sweepings of factories are used to adulterate ginger. Two-thirds are impure to one of the pure articles retained. Old boots and shoes literally pass through the heat of the hottest ovens to be mixed with pepper, and old tannin removed as a nuisance is ground into cinnamon. This class of domestic manufactures simply forbids all additional comment upon what at times is thus made and sold.

"Finally, there is no more reason in truth, and there is much less reason in fact,

why food adulterations should be tolerated or excused than adulterations in gold or silver or the use of counterfeit money in coin of any kind. What is sold to eat or as coffee, tea, cocoa, beer or wine or more stimulating spirits for drink should be pure. The gold when adulterated for purposes of science or manufactures should state the grains of pure gold in the coin or in the article made, whether in jewels or any other thing manufactured. The same at least should be true of the silver dollar coined at the mint and of every article of silver. Even more should this be true of what we eat and drink.

"I am not surprised, however, to hear the federal government cited as a successful example of adulterated money by those who practice the manufacture and sale of tainted and adulterated food and drugs. We cannot always control the government, but we can at least insist that the manufacture and sale of adulterated food and medicines shall be exposed to the public eye and punished by public law."

THE HYGIENE OF SAILORS.

The next paper read was that written by Surgeon Walter Wyman, of the U. S. Marine Hospital Service, styled "The Hygiene of Sailors engaged in the Coasting Trade, and especially the Hardships of the Chesapeake Oyster Men." Many steamers on rivers have no protection for their deck crews in inclement weather. He speaks after three years' experience in St. Louis and Cincinnati. One hundred thousand people in Maryland depend upon the oyster trade, and 300,000 persons obtain their living in some way from the oyster business; 20,000,000 oysters are obtained annually, and the total oyster bed area is 640,000 acres or 1,000 square miles. Oysters are secured by tonging and dredging, the latter being the method most extensively followed, and the dredgers are the ones who suffer so many hardships. The crews of the vessels are gathered in the cities and are of a motley character. Many of the men are "shanghaied," that is kidnapped, as the service is sometimes very unpopular, owing to hardships and small compensation. It is said that in Washington there are regular press gangs who often take off youths of good family. The captains of the oyster vessels are usually very brutal, and on a par with the mates on Western boats. Many of the crews are to be found in hospitals suffering

from frozen hands and feet, many of them also are knocked overboard by the irate commander. The captain, and necessarily his crew, are charged with lawlessness and often encroach upon the shallow waters reserved for the "tongers," sailing away before they can be captured. On this account many States must keep oyster navies. Maryland having eleven oyster ships and three steamers at an annual cost of \$60,000. It must be remembered that dredging must be done by the men on the open deck in cold weather. The men work all day, with clothing wet and often frozen to their bodies, thus causing pneumonia in numerous instances. If a dredger gets sick he is entirely neglected by his mates who are too busy during the day to give him any attention. He is therefore compelled to lie in the narrow cabin for many days without a fire. Frost-bites are very common, and wounds received from the oysters are often poisoned by some means and the entire arm swells up and occasionally fingers are lost by the necessary amputation. Falls, blows from foreign bodies, etc., are among the most general causes of injury. The crank handle of the dredging machine is a murderous engine, murdering dozens every winter, and the story of its victims can never be told. If the oyster dredge, while in the water, strikes a wreck, the windlass reverses rapidly and the handles fly from the hands of the four men, turning the crank, as if by straw, and all the men are seriously, some dangerously, wounded. Many of these dangers are preventable, and the State of Maryland, could easily enforce, with its oyster fleet, proper regulations.

CREMATION AS A SAFEGUARD AGAINST EPIDEMICS.

A paper on "Cremation as a Safeguard against Epidemics," by Rev. John D. Beuglass, Chaplain U. S. Navy, followed next. How shall we dispose of epidemics? Various means have been suggested and from them all we hope the best. Epidemics, however, still come. No cordon of soldiers, no quarantine can save us from epidemic, which comes by usual and unusual channels. It comes on the wings of the winds and walketh in darkness. Having come shall we hope to drive it out by sending out quarantine vessels armed with chlorine, copperas and acids? You might as well pour upon it the spray of sweet

violets. Shall we fumigate? You might as well burn sweet words. Disinfectants often turn out to be boomerangs, more dangerous than the disease. Whether microbes are the cause of the diseases of the zymotic type or not, they are always present, and certain microbes always produce certain diseases. Disinfectants, freezing, drowning, burying and desiccating do not destroy any but the feeble microbes. Moisture and warmth seem to be necessary to their sustenance and our system of burial furnish immense magazines of these microbes to the earth. These exist for hundreds of years, and in Medina an epidemic was caused by digging up the bodies of those who died of the epidemic three hundred years ago. There is one thing, no disease germ can pass through the crematory fires and live to propagate its kind. Cremation is the only true germicide. Pope Clement V. escaped contagion by building a wall of fire around his palace. Thirty-three per cent. of our deaths are caused by zymotic diseases, which can be obviated only by cremation, instead, then of laying our beloved dead into the cold bosom of earth, let us incinerate them and thus return them to the original ashes from which they rose. Potter's fields are a disgrace to civilization and a pest to the community. Let crematories be established in connection with all public institutions, and let this influential body memorialize Congress for this purpose. But this is not enough. All garbage, all sewerage of the cities should be cremated, and thus will our land become the land of the living, and not the valley of the shadow of death.

SANITATION BY FIRE.

A brief abstract from a paper entitled "The Ultimate Sanitation by Fire," by Hon. J. M. Keating, Memphis, editor of the *Appeal*, was read by Dr. J. B. Lindsley. All methods of disposing of sewage matter in vogue at present are failures. All the great buildings in London for disposal of refuse of the Thames are far less useful than a simple crematory. The effect of sanitation by fire would prevent return of deleterious matter, as is at present the case; would increase the water supply; would put a stop to soil saturation and sewer gas; would reduce scavengering to minimum expense and obviate great systems of sewerage; put a stop to all nuisances complained of from defective plumbing; would prevent filling up of harbors with excretal

matters; would prevent a wholesale destruction of fish, the poor man's food; it would put a stop to the cess-pool system in villages, hamlets, towns and cities; it would solve all problems that now vex sanitarians from house connections by which the sewage finds its way to rivers and harbors, it makes a finality of all waste of cities.

Dr. JOHN MORRIS, of Baltimore, opened the discussion. In the epidemic of 1855 the dead were buried only superficially in trenches shallow in depth. From experience gained there he had no doubt that cremation was the proper thing to use in time of epidemic.

Dr. FELIX FORMENTO, of New Orleans, said cemeteries were foci of disease, and the ground in which yellow fever patients had been buried was saturated, a year after burial, with the same microbes present in yellow fever cases. The microbe theory is the correct one, the disease being caused by the reproduction ad infinitum of the microbe. Through earth-worms the microbes reach the surface of the earth, and cremation is the only means of destroying them. He seconded the resolution indorsing cremation.

Dr. GEO. M. STERNBERG, U. S. Army, thought the reasons given for epidemics were not entirely satisfactory. It has been thoroughly demonstrated that in yellow fever there are microbes, and in material examined within an hour after death bacteria were found. The organisms of putrefaction destroy the germs of cholera and yellow fever.

Dr. A. C. BERNAYS, of St. Louis, thought cremation the best and only reliable means of destroying disease. Within the last ten years the germ theory of disease has been proved almost to a certainty, that is, such diseases depend for life and sustenance upon these bacilli. Dr. Koch has shown that bacilli of tuberculosis have power of subdivision, and can survive alcohol and even pure nitric acid. He also proved that the only way of sterilizing any vessel was a temperature of above 200 degrees, Celsius, some say 250 degrees. Whether the destruction of some of the microbes by cremation will remove the disease he did not dare to say. In a watermelon he discovered cytozoa, or animals living in a cell.

Dr. J. H. RAYMOND, of Brooklyn, protested against accepting the theory of such men as Koch who have made experiments

only recently, and when he sees disinfection so long in use laid aside on the mere *ipse dixit* of men who will in six months be laid alongside of men whose errors are acknowledged, he wishes to earnestly protest.

Prof. G. H. ROHE, of Baltimore, added his protest also, and thought there was no more reason why bodies should not be as properly buried during epidemics as burned. There is no evidence that any infectious disease has ever been communicated from cemeteries after bodies have begun to decompose.

Dr. WM. BAILEY, Louisville, asserted that cremation would not kill all organisms, and asked what would be done with those that escaped? One could not well cremate a ten acre lot full of microbes.

Dr. FORMENTO read instances where contagious diseases had been communicated from graveyards. The only way to prevent a dead body from becoming dangerous is to do in an hour what nature does in many years.

The Convention then adjourned until 9 o'clock Thursday morning.

Third Day—Morning Session.

The third day of the meeting of the Public Health Association was called to order at 9:30 Thursday morning, by President Gihon, with a good attendance present.

Dr. R. H. READ, of Mansfield, Ohio, moved that the committee on school hygiene be instructed to formulate a practical system of school hygiene and report the same at the next meeting of the Association. Referred to the committee on resolutions.

Dr. HUNT introduced a resolution, "that this Association hereby expresses its pleasure at the prospective meeting of the International Mechanical Congress in this country in 1887." Referred to the executive committee.

THE SANITARY CARE OF STOCK IN TRANSPORTATION.

Was the first paper, and was read by its author, Dr. W. B. Conery, of the State Board of Health of Missouri. The object of the paper was to present a few observations on the dread pestilence among our cattle commonly known as Texas, Spanish or splenic fever. The germ of the disease has its origin among Texas cattle, and is communicable to northern hoofs by them. The number of animals shipped annually

from Western ranches to the cities of the interior and the seaboard is enormous. The distance is so great that the journey under the most favorable circumstances would be attended with almost innumerable hardships; as it actually is, it is accompanied by extreme suffering from want of food, drink and space. The cattle endure the agonies of a two weeks' journey in midsummer, suffering from hunger and thirst in sight of green fields, rivers and lakes. It is a common occurrence for cattle to be shipped from St. Louis to New York with but a single rest during the entire journey. The cars should be thoroughly cleansed and disinfected after every loading and shipment, and under no circumstances should they be overloaded or the animals crowded together. Such transportation renders the animals unhealthy, and causes much of the disease now prevalent. Fresh water, air, and salt pans should be accessories of cattle cars, and the animals should be daily inspected and the wounded and broken-down removed. There must be a thorough inspection of the food supply before we can expect the best results.

RESOLUTIONS AND REPORTS.

Dr. S. S. HERRICK of New Orleans, offered the following on behalf of the Hon. John Eaton, Commissioner of Education at Washington;

WHEREAS, There may be an opportunity to represent to the people of the country, through the World's Exposition at New Orleans, such facts as it may be serviceable for them to know in relation to public health and sanitation,

Resolved, That a committee of three be appointed to confer with the management of the New Orleans exposition relative to an exhibit in the interests of the public health, and it seems desirable for them to superintend the preparation of such exhibit.

Referred to the committee on resolutions.

Dr. COVERNTON of Toronto extended an invitation to the Association to hold its next meeting at that queen city of Canada.

The auditing committee, through their chairman, Dr. Devron, reported that they had examined the treasurer's accounts and found them correct. Report accepted and Committee discharged.

Dr. J. M. PARTRIDGE, of Indiana, submitted a report of the committee on cattle diseases, which was received and adopted,

and the committee continued under the name of the committee on animal diseases and food, the motion of Dr. E. M. Hunt to that effect being referred to the executive committee.

Dr. A. N. BELL of New York, of the committee on epidemic diseases, then submitted his report. The smallpox epidemic can be averted by proper vaccination, and the speaker recounted the sanitary measures used in Patterson, N. J. during the great smallpox epidemic in that city. The remarkable fact about the plague was that it raged most violently in the filthy portions of the city, and the lawless were the ones generally attacked, the abandoned of both sexes being the first to succumb. Rules for the restriction of scarlet fever and diphtheria were also adopted by the Patterson authorities, and regulations were very strictly enforced against children in the public schools suffering from contagious diseases.

Dr. Jos. HOLT, New Orleans, read his portion of the epidemic report, entitled "Quarantine Sanitation," in which he vigorously attacked the detention system. He explained at length the system in vogue in New Orleans.

Dr. BELL, chairman of the epidemic committee, then concluded the report.

THE SANITATION OF THE MISSISSIPPI VALLEY.

By Dr. G. B. THORNTON, M.D., of the State Board of Health of Tennessee, then followed. The Mississippi river bottom, lying between the 37th and 29th parallels, or between Cairo and New Orleans, a territory of 32,000 square miles, is one of the richest sections in the world. It contains alluvial bottoms, is subject to annual overflow, and many places once under cultivation, must necessarily be abandoned, and thus revert to their natural wild state. This country is the natural habitat of malarious diseases of all kinds. There is a marked difference of susceptibility to these diseases between the whites and the negroes, and the former are far more susceptible than the latter, and do not stand exposure so well during the summer and fall months. This section has been visited by the two great epidemics, cholera and yellow fever, on several occasions.

The sanitation of the valley depends on the following measures:

1. The reduction to the minimum of the causes of the malarious atmosphere.

2. An improvement in the present method of living.

3. The prevention of the introduction of the infectious diseases above mentioned.

The swamp lands are enormous, but the intensity of the disease seems to vary with different years, owing to a difference in atmospheric conditions. Overflows do not inevitably cause an increase of malaria or other diseases, and they do not usually cause or promote epidemics, therefore overflows are not usually dreaded. There is no adequate index to the condition of the bottom countries as far as health is concerned. Malarial diseases prevail most largely in the latter part of the summer and fall, when the ground is covered with dew and the air is moist. The conditions necessary for the production of malaria are a heat of 67° to 70° permanent moisture and vegetable decompositions or emanations. The first essential step toward the prophylaxis is the reduction to a minimum of the two elements which are in a degree controllable, that is, the moisture and the vegetable decompositions or the miasmatic emanations of the soil. The seasons being immutable, the heat can not be modified. Civil and sanitary engineering can in a measure so dispose of the water distributed over the country by the excessive rainfall and the annual spring floods as in a manner to control this element. This would require an effective system of canals, levees, reservoirs, for holding back the water from the upper tributaries, and the increased rapidity of the overflow of the waters into the Mississippi, and thereby prevent or diminish the dangers incident to the more tardy process of evaporation.

The third factor, decayed vegetable matter, and the deleterious elements of a fresh soil, are in process of being removed by constant clearing and cultivation of lands for agricultural purposes. The process of building levees, draining bayous, lakes and stagnant pools, and removing the deleterious ferments of the soil, is a slow process for the sanitation of this vast delta. In the meantime it is well to consider the best methods of preserving health in the face of these opposing elements. The resistance to malaria can be strengthened by improved modes of living, especially among those not acclimated. Good food, wholesome drinking water, suitable clothing, keeping out of the night air, strict abstinence from whisky, and comfortable houses will greatly aid in

the struggle with the disease. Individual hygiene is a necessity, but the class who observe it is very limited, and it may be said that there are fewer people in this section of the valley who enjoy the comforts of home life than in any other section of the Union. Those suffering most are Northern or European laborers working under contract. They have to live in miserable huts, with poor food and clothing, and are usually sallow complexioned, with enlarged livers and spleens, and suffering with what they call swamp fever.

Now that Congress has spent five millions to deepen the mouth of the Mississippi and has appropriated money for the construction of levees to prevent overflows, the question becomes one of more than local interest. Protection from overflows in the Northern States becomes a matter of vital interest to the people of the North and South. This section is the agricultural center of the country, and will contribute more to the wealth of the nation than any other section of the Union. Civil engineers seem to agree that levees are the most efficient protection against overflows. Reservoirs at the head of the tributaries of the Ohio, straightening of channels by cut-offs, the closing of bayous and crevasses, and the building of levees are the practical modes of prevention.

WATER ANALYSIS.

"The Present and Future of Water Analysis," by Maj. Chas. Smart, Surgeon in U.S. Army, member of the National Board of Health, was the next paper. Organic matter collected by water is a mixture of many substances, animal, vegetable and mineral, carbon and nitrogen compounds predominating. It is not the dead organic matter which makes our water dangerous, but the living organisms. They are connected with vegetable decomposition and sewage. The living organism should become the object of careful study, and the presence of bacteria carefully tested for. The microscope offers the best solution of the question of a good water supply.

THE UPPER OHIO.

Dr. James E. Reeves, secretary of the State Board of Health of West Virginia, read a paper entitled "The Pollution of the Upper Ohio and the Water Supply of its Cities and Towns." The condition of health and the probable duration in the life of a people may be measured by the quantity and quality of their water supply. There

are two cities at the head of the Ohio — Alleghany and Pittsburg—whose aggregate population is not less than 240,000. Besides refuse and filth of all kinds, the Ohio is made the convenient receptacle of the carcasses of diseased animals, and thousands of tons of corrupting matter are thrown daily into the stream which supplies the water we drink. No wonder, then that diarrhoea and typhoid fever are so common, and the deathrate from these diseases is so high. Generally speaking, waters that are free from rapidly moving, ciliated infusoria, and that present a comparatively dead microscopic field, are the waters that have percolated through a very pure or very impure soil. In other words they are very pure spring or very foul well waters. Waters containing nitrates are regarded by Franklin and Elkin, of London, as dangerous, even when they contain only a small proportion of these salts, and water containing nitrates are particularly to be avoided. It is not the ordinary organic matters of decaying garbage, animal fragments, etc. that may be dangerous when taken into the stomach, but certain morbid micro organisms which may accompany them.

THE RELATION OF THE DEPTH OF WATER IN WELLS TO THE CAUSATION OF TYPHOID FEVER.

By Dr. Henry Baker, Secretary of the Michigan State Board of Health, was next read. The author showed that cases of typhoid fever were dependent in many instances on the low state of water in wells, and occur in very warm and very cold weather. The temperature of well water has some slight effect on health. In 1881, when typhoid fever raged in Michigan, the water in the wells of the State was exceptionally low. The question arises, is there a quantitative ratio between these two observed phenomena? From all obtainable evidence it would appear that in Michigan at least there is not the same relation of fever and levels in winter and summer. What constituent of drinking water causes typhoid fever? Bacteria can not exist in fresh well water, and the serous evacuations in severe cases of diarrhoea are probably the direct causes of typhoid fever, and in Michigan the fever increases every autumn immediately after the periods when diarrhoea prevails extensively. A specific cause of outbreaks of fever has been determined by the investigations of eminent

microscopists who have cultivated the typhoid bacillus. How does typhoid fever depend on low water in wells? A study of the relation of closets and wells will reveal the cause, for whenever the level of the water in the well is below that of the fluid in the closet, the tendency of the latter is to flow down into the well or else into the waters near the well. The dilution of the poison when the water in wells is high explains the decrease of typhoid fever during these periods. How can typhoid fever be prevented? The answer is in four words. Stop drinking contaminated water. The prevention of contamination of well water is a much more difficult problem, for vegetable contamination must be avoided as well as animal contamination.

“The True Value of Chemical Analysis in Determining the Hygienic Purity of Potable Water,” was read by Thad. M. Stevens, M.D., of Indianapolis. It was an interesting treatise on the most successful modes of chemical analysis.

A LIBERAL DONATION.

Mr. Henry Lamb, of Rochester, N. Y., offered to give the Association \$2,000, to be contended for next year by those contributing papers, the subjects being as follows:

1. Healthy homes and food for the working classes. \$500
2. The sanitary conditions and necessities of school houses and school life. \$500.
3. Disinfectants and individual prophylaxis against infectious diseases. \$500.
4. Appliances and means for saving life and for protection against the injurious influences of some work and occupations. \$500.

Essays to be ready April 5th, and to become the property of the Association.

Mr. Lamb also agrees to give \$50 to defray the expenses of a committee on disinfectants.

A committee to consist of five members, one to be named by the National Board of Health, three by the executive committee of the Public Health Association, and one by the President of the Conference of State Boards of Health, was asked to be appointed for the reading of the essays and awarding the prizes.

The donation was accepted by a rising vote, and the matter referred to the committee on resolutions.

ST. LOUIS SODA WATER.

“The Manufacture of Soda Water from

Polluted Well Water," by Dr. Frank R. Fry, St. Louis Medical College, was the next paper read. Most of the manufacturers of soda water in this city use well water. All the wells from Chouteau to Cass avenue, and from the River to Fourteenth street are contaminated by sewage. There is great difficulty in contending with this practice owing to the fact that though impurities have been discovered in the wells, a sufficient amount has not been discovered to warrant the Board of Health taking legal action and in condemning and destroying the well. The most profitable plan, certainly, would be to close up and destroy the wells, but the proprietors can not see it in this light, and fiercely resist the officers. It would, therefore, be of the utmost importance if the Society would stamp its approval upon the condemnation of the use of well water in the manufacture of soda water. Especially so as the probabilities are that a like condition of affairs exists elsewhere.

Dr. S. S. Herrick secretary of the Louisiana State Board of Health, read a paper on the

RELATIONS OF UNDERGROUND SEWERAGE TO FILTH DISEASES.

The writer's conclusions were that underground sewerage plays no important part in

typhoid fever, diphtheria and diarrhoea. Frequent inspection would be required in underground sewerage, which is not always obtainable. The advantages of the system lie in a questionable economy and a greater degree of decency than can be obtained any other way.

DISPOSITION OF SEWAGE.

Dr. W. John Harris, of St. Louis, gave the main points of his paper, "The Chemical Disposition of Sewage." It had been stated that sewage would purify itself in three or four miles, but in London, in the river Thames, sewage has been found fourteen miles from the place where it was turned into the river. Mother earth is perhaps the best disinfectant, but irrigation would not answer in clayey grounds. The most feasible process is now in use in Tottenham and Windsor — quick lime, potash and coal tar being employed.

Drs. E. M. Hunt, Trenton; Harris, St. Louis; J. H. Raymond, Brooklyn; P. H. Bryce, Ontario; H. J. Herrick, Cleveland; Prof. Vaughan, Ann Arbor; Dr. Fee, Kansas City; Robt. Moore, St. Louis, and others, participated in the discussion of the papers, when at 2:30 P.M. the Association adjourned until 8 o'clock P.M.

[The concluding sessions of this society will appear in next week's issue].

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CORRESPONDENCE FROM PHYSICIANS PROMPTLY ANSWERED.

Society Reports.

ACADEMY OF MEDICINE.

Meeting of October 6, 1884.

W. H. WENNING, M.D., G. A. FACKLER, M.D.,
Pres't in the Chair. *Secretary.*

Pathology of Inflammation.

DR. CONNER introduced the subject by saying that although gallons of ink have been wasted in efforts to define the term inflammation, still there exists no definition to which exceptions cannot be taken. Why this should be so, may be explained by the fact that under the general term inflammation numerous conditions have been described, which are by no means identical. Inflammation is a state of perverted nutrition. All phenomena manifested in normal nutrition are present, but modified. The same phenomena are witnessed in the repair of tissues. Some are always present, as the increased amount of blood, which flows more slowly. The hyperæmia is characteristic both of inflammation and repair. The simple excess of blood is hence not the essence of inflammation, nor is the slowness of the blood-current, for the latter is noticeable in other conditions also, as shown at night, when during sleep the circulation is considerably slower than during the state of wakeful activity. Inflammation must also be attended by at least a tendency to exudation, which Bennet claims to be its very essence—but exudations is a necessity of normal tissue-feeding. While it is exceedingly difficult to define the term and the causes, we know the ordinary phenomena which attend the inflammatory state in greater or less degree; pain, heat, redness, swelling, and with these necessarily associated a perversion of function. Yet this does not necessarily constitute inflammation. Let a cinder find lodgment upon the eyeball, the accident is followed by heat, redness, swelling, pain and perverted function as evidenced by the increased lachrymation, yet no inflammation is present, since after the removal of the cause, the symptoms disappear leaving no tissue change behind. Tendency to repair, or destruction of tissues constitute these changes. Neither are absolutely indicative of inflammation.

DR. WHITTAKER remarked that it certainly does not satisfy every one to consider inflammation a state of perverted nutrition.

This idea had its origin in the time of cellular pathology. The four phenomena, heat, redness, swelling and pain, the old conception of inflammation, have been aluded to. These are simply effects and not causes. Later we had also the vaso-motor pathology. It was noticed that irritation was followed by a retardation of the circulation, and this in its turn by congestion, increase in blood supply. This effect was attributed to nervous influence. *Ubi irritatio, ibi fluxus*. It was soon discovered that the increase in amount of blood and the stasis, effects of section of the sympathetic nerve, did not constitute inflammation. In 1847 Virchow's researches on cellular pathology were published. He explained the pain by the pressure of the exudation upon the sensitive nerve fibres, and by change in the nutrition of the nerve centers, and the tumor by the multiplication of cellular elements.

Cohnheim followed with his explanation of the retardation of the blood current; the approach of the white corpuscles to the vessel walls, the change in these walls, and the migration of the corpuscles. We are now familiar with the fact that inflammation may arise from many causes, viz.: heat, cold, trauma, or depend upon a poison received into the blood. Poisons find entrance through the various avenues of the body, through broken skin, or mucous membrane. Or the poison may accumulate upon and break down the mucous covering and thus find entrance. The poison element is the direct cause of the change in the blood corpuscles and vessel walls.

Whatever may be said of external lesions it is becoming more and more probable that internal inflammations are of mycotic origin. The nature of the process consists as seen of lack of tonicity of the vessel walls, retardation of the blood current, lining of the wall with white corpuscles, and migration of the corpuscles to undergo subsequent change or constitute pus. The prime cause of these changes is to be looked for in change in the quality of the blood, and this change is induced by micro-organisms in most cases of internal inflammations.

DR. NICKLES said that notwithstanding the multiplicity of the causes of inflammation, as intense heat and cold, severe mechanical and chemical injury of the tissues, the inflammatory process seems to be essentially the same in all cases, differing only in intensity and extent. In all forms

of inflammation the causes produce a change in the walls of the blood vessels. This change is not of such a gross nature as to be discoverable by the microscope, and hence pathologists call it a molecular alteration of the vascular walls. In consequence of the irritant action of the causes of inflammation and the resulting injury to the blood vessels and other tissues, a larger quantity of blood is attracted to the part. The blood vessels having lost their tone and resistance to the blood-pressure they become markedly dilated, especially arteries and veins, but also the capillaries, although to a less extent. The flow of blood in the dilated vessels becomes greatly retarded, and the white blood corpuscles leave the central part of the current and occupy the outermost zone, that is, form layers along the vascular walls. It is supposed that they cling to the walls in consequence of their adhesiveness. After a time, when they have accumulated greatly, those in contact with the walls, penetrate and pass through the vessels, especially the veins, to some extent through the capillaries, but never through the arteries. At the same time, and even before the passage of the blood corpuscles, more or less of the fluid part of the blood filters through the vessels and infiltrates the adjacent tissues. Having passed through the vascular walls, the white blood corpuscles may migrate further and with the liquor sanguinis infiltrate the surrounding parts. The passage of the white blood corpuscles through the vessels, which has been attributed to their power of performing amœboid movements, is wholly a passive process, they being forced through the abnormally pervious vessels by the blood pressure.

If a molecular alteration of the vascular walls be considered the essential feature of the inflammatory process, it is not difficult to account for all the symptoms and phenomena presented. For, in consequence of the molecular alteration the vessels have lost their tone, their resistance, and have become more porous, so that their contents may readily escape from them.

The redness is due to the increased quantity of blood in the dilated vessels. To this also in part is due the swelling, but more to the exudation, which infiltrates the surrounding tissues. The pain results from the pressure of the exudation on the sensory nerves of the inflamed area. And finally the heat, like the redness, is produced by

the large quantity of blood in the dilated vessels, and hence is never of a higher temperature than the blood of the interior of the body, and may be lower.

Inflammations are divided into various groups or classes, according to the real or supposed cause, the character of the exudations, and the organs involved. Hence there are specific, mycotic, traumatic, rheumatic, phlegmonous, parenchymatous, catarrhal, diphtheritic, croupous inflammations. But no difference what the cause or causes of an inflammation, in what organ it supervenes, or what the marked qualities of the exudation, the essential condition always remains the same, namely, the molecular alteration of the vascular walls. This doubtless may differ greatly in degree and extent, according to the nature of the cause, the duration of its action, and the previous state of the inflamed part. An internal inflammation, since it may result from cold, heat, pressure and other causes, mechanical and chemical, is not necessarily mycotic.

DR. SEELY thought it so strange that much discussion should be devoted to the blood vessels. In fact, all processes are so complicated in vascular structures, that almost all we know about the changes occurring in inflammation has been studied in the extra-vascular structures, where all the essential inflammatory changes take place. In the cornea we can see the change which inflammation excites. At first there is simply an accumulation of all the ordinary products of nutrition. Any insult to the tissues produces this result. In the lacunæ of the cornea we have an increased lymph supply, and an accumulation of the white corpuscles, the lymphoid cells. The tissues are altered in their relation. The fibrillæ and perhaps the fibres are dislocated, and the phenomenon of an opacity is simply a disarrangement of the relation of the parts. The causes various in character, practically result in the same thing, an insult to the tissue.

DR. WHITTAKER did not clearly understand the statement that the elements are forced from the blood. It is generally admitted that retardation of the circulation follows dilatation of the vessels, and through relaxation of the tissue elements of the vessel walls migration is effected. Is the pressure alluded to due to spasmodic force from behind the seat of inflammation? If the transmission of the corpuscles is a passive

process it must be due to a *vis a tergo*. Where does this force arise?

The location chosen by the different germs may be explained by the predilection of vegetable growths for certain kinds of soil.

The *vis a tergo* must be explained by a contraction of all the blood-vessels of the body, or of those immediately behind the seat of inflammation. Pressure can be increased artificially and yet no phenomena of inflammation result.

Dr. NICKLES said that inflammation is essentially and throughout an affection of the blood-vessels, not only of those which possess muscular tissue but also of those which do not, the capillaries. When any part of the body is injured, active hyperemia results. It is an old but true doctrine that wherever there is irritation there is an afflux of blood. In ordinary active hyperemia the arteries dilate, and the flow of blood is increased not only in quantity but also in rapidity. This no doubt also occurs in arteries supplying an inflamed area; hence the greater amount of blood in the inflamed vessels and in the veins which remove the blood from the inflamed part. But while in the arteries supplying an inflamed area the flow of blood is accelerated, the flow is greatly retarded in the inflamed vessels. The inflamed vessels no longer have the power to resist the pressure of the blood and hence become greatly distended. The passage of the white corpuscles out of the distended vessels is simply a consequence of the increased porosity of the altered vascular wall, and it not due to their migratory tendency, for if the supply of arterial blood to an inflamed area be cut off, the extravasation instantly ceases.

Dr. CONNER considered it a plain fact that we know very little of the subject under discussion. Not a single point has been presented which may throw light upon it. Not a single point has been presented which would establish a clear line between the processes of inflammation and nutrition. Irritation produces nothing but an afflux of blood. Aggregation of the white cells occurs wherever there is slowing of the current. Migration is not necessarily a phenomena of inflammation, for the same occurs in nutrition. It is not proven that the white blood corpuscles force their way through stomata. They are regarded by many as masses of protoplasm which make their own way through the ves-

sel wall. Pathologists are not united upon anything but the phenomena. We simply know that dilatation of the blood vessels and migration of the white corpuscles is followed by increase of tissue, and nutrition, repair, and inflammation differ only in degree.

Dr. NICKLES remarked that inflammatory diseases constitute more than one half of all the serious cases treated. It is therefore of vast importance to have correct ideas of their pathology, though we may not know precisely what chemical changes of the vessels has taken place. As yet we are unable clearly to understand the chemical changes taking place in any of the cells of the body. What we do in respect to treatment depends upon our pathological views.

Dr. WHITTAKER thought that perhaps the presence or absence of pus cells would determine the existence of an inflammation. In a case of serous effusion some pus cells may always be detected in the effused liquid. It is highly probable that there is no inflammation without a tapestrying of the vessel walls with corpuscles. They approach the vessel wall because they are lightest. All the processes are purely mechanical.

Cohnheim formulated the statement "without blood-vessels, no inflammation," but he was not able to show what causes the change in the vessel-walls. According to Cohnheim this change is the Ultima Thule of our knowledge of inflammation. But this knowledge is not satisfactory. The question arises, what causes the alteration in the vessel-walls? This question is now being answered by the etiologists. They have shown definitely of some diseases, as small-pox, erysipelas, tuberculosis, etc., an ultimate cause. Of other diseases the cause remains to be shown by further investigations requiring more time. It is not fair to assume that what is true of some is true of all. Each process must be worked out independently and alone.

Dr. NICKLES said that Cohnheim does not hold that suppuration cannot occur without micro-organisms. On the contrary, he was able to produce suppurative inflammations by injecting oil of turpentine, petroleum, and croton oil into the subcutaneous connective tissue of dogs. But it may indeed be held that in nearly all the intense inflammations terminating in suppuration micro-organisms are the cause.

CINCINNATI MEDICAL SOCIETY.

Meeting of October 7, 1884.

B. STANTON, M.D., W. H. M'REYNOLDS, M.D.,
President. Secretary.

REPORTS OF CASES.

DR. TAYLOR reported

• *Two Cases of Puerperal Mania,*

Which had occurred in his practice in the last six months. The first was a lady in good circumstances, with an indistinct history of hereditary insanity in her family. This was her first confinement and the labor was natural, with no unusual or unfavorable circumstances attending or following it until three weeks had passed. Then she became incoherent, and continued so with occasional paroxysms of violence for three weeks, when the speaker saw her in consultation with her medical attendant. She took no notice of her child, and the secretion of milk failed. Her pulse was high, and the temperature could not well be ascertained on account of her resistance. She was sleepless, had some sanguineous discharge and was emaciating quite rapidly. Bromide of potassium and chloral had been given, and sometimes morphia in large doses. The speaker objected to the large doses of morphia. Nutritive fluids and tonics, with chloral as a hypnotic, was the treatment he would pursue, and he would prefer to give the chloral by enema so as to avoid gastric derangement as far as possible. The most important factor in the treatment of such cases he believed to be separation from friends and the familiar surroundings of home, and therefore advised, in this case, seclusion in a private asylum.

The second case was that of a colored girl in the hospital. Before delivery she manifested signs of derangement. She was sullen and avoided association with the other inmates of the ward; when annoyed she became excited and violent, and attacked those with whom she came in contact. It was necessary to restrain her until the birth of her child. After that she became quiet but not rational. She slept well but had some elevation of temperature. She remained quiet unless crossed, when she became much excited. This was either a case of mania or extreme viciousness. Once she attempted to escape from the hospital in a way a sane person would hardly attempt.

There is one point in these cases upon which definite opinions are needed; that is, whether we should send the patient to the asylum early, or wait until her condition is such that it is impossible to keep her at home. The speaker advised early separation from friends and seclusion in an asylum.

DR. STANTON thought the chances of recovery better away from home even if the patient were not in an asylum. In an asylum skilled nurses and proper appliances would still further increase the chances of cure in any case of insanity. Puerperal insanity is a variety which is generally considered curable. The speaker had seen but few recent cases while in the State asylum, most of those brought there being chronic. At that time chloral had not come into use, and the treatment consisted of stimulants and tonics, with good diet. Some bromide of potassium was given, but the main reliance was upon opium as a hypnotic.

DR. JOHN DAVIS agreed as to the propriety of removal of the patient from home when the case was not complicated with metritis, peri-metritis, or some disease endangering life. The chief benefit of asylum treatment consists in the separation from friends and familiar surroundings.

He mentioned a case which occurred in the hospital some years ago. The case was one of complete insomnia and was treated with dry cups to the spine, and afterwards large doses of extract of hyoscyamus, as much as ʒij. in twenty-four hours. This resulted in producing sleep. The patient finally recovered. The recovery was doubtless the effect of time, aided probably, by the hyoscyamus. In metritis and peri metritis the effect of opium is undoubtedly good. The greatest benefit is also derived from the free application of hot water in inflammation of the uterus and surrounding structures, whether the inflammation be acute or sub-acute. Frequently repeated and long continued applications have proven beneficial where the smaller quantity ordinarily used has failed.

DR. EICHBERG asked Dr. Taylor if there were not some cases in which we could not do without morphine.

DR. TAYLOR in reply said, it is well to do without morphia as far as possible, for this drug interferes with all of the secretions, and as death comes in this disease from exhaustion, it is of the utmost impor-

tance to maintain the integrity of the digestive organs. Nourishment and sleep we must obtain—the latter by other means than morphia where it is at all possible. He believed large doses of this agent often proved injurious. The speaker thought the heredity of puerperal insanity a very important matter. He had once been consulted in a case where an insurance company contested the payment of a policy on the ground of fraud in its procurement, the fraud consisting in the insured having concealed, or failed to state the fact that his sister had suffered from puerperal insanity. He was asked if puerperal insanity was hereditary and expressed the opinion that it was a mark of hereditary weakness. He then mentioned several cases of puerperal mania in which the family history led to a suspicion of heredity.

DR. JOHN DAVIS agreed as to the advisability of producing sleep without opium when possible, but would not discard it in all cases. He often met with success in the use of a combination of bromide of potassium and chloral.

DR. STANTON said, the insane require larger doses of opium than persons in a normal condition of mind. When opium is given to produce sleep it should be in large doses; small doses are a mere waste of the drug and a loss of valuable time. He also reported the following case of

Retained Placenta in Abortion.

A woman, four and a half months gone in pregnancy, began to bleed three weeks ago, the hemorrhage continuing until Saturday night (October 4th), when uterine pain came on and the foetus was expelled. The uterus contracted without expelling the placenta. At this stage the speaker was called in and the question arose whether it was best to leave it alone or make an effort to remove it. Many authorities advise the former course, but in this case it was thought best to remove it, which was done with the hand. The placenta was attached over the anterior surface of the uterine cavity and extended over the os, a very small portion of it was detached.

DR. JOHN DAVIS asked what he would have done if no part had been detached?

DR. STANTON said in reply that if the removal of the placenta could be accomplished by the fingers as easily as in this case he would feel that the patient would be placed in a better condition by taking it away.

DR. JOHN DAVIS said he formerly pursued this course, making every effort, even resorting to the use of instruments to get rid of the placenta as quickly as possible. But, for some years, where there is no detachment, he has avoided everything that would tend to break up the placental structure and permit access of air, for fear of decomposition of any remaining parts and resulting septicemia. He could testify that the placenta might be left with safety for a considerable length of time. In one case three weeks had elapsed before it came away. He uses hot water injections freely and sometimes carbolized water.

DR. STANTON said he would not use instruments under any circumstances. If he could not remove the placenta with the fingers he would leave the case to nature. When a woman has gone four and one-half months, failure to get it with the fingers will seldom if ever occur.

DR. TAYLOR said the question of the duration of the pregnancy is a very important one. At four and one-half months the placenta is well formed, and the decidua detached, the only attachment to the uterus being at the placental surface. Before three months the placenta is not well developed, the decidua are still attached, and when the attachment is broken in a part of its extent access of air is allowed. He was satisfied that great risk was incurred by attempting to remove the decidua with instruments, although there is authority for such a course. His plan was to do nothing after the expulsion of the fetus unless some complication should arise. If the os be tamponed bleeding to any dangerous extent cannot take place. If symptoms of septicemia should come on then all means should be used to deliver the secundines.

DR. DAVY asked at what period in pregnancy is the placenta sufficiently well developed to be removed by the hand or by instruments.

DR. TAYLOR said at three months, previous to that time it is hardly proper to call it placenta, it is part and parcel of the decidua, which are attached over a large portion of the surface of the uterine cavity. Abortions mostly occur from ten weeks to three months of gestation. Before three months it is not possible to remove the decidua with the hand. When abortion occurs the contractions of the uterus tend to detach and expel the decidua and it is

best to trust to this natural process, provided no complications are present.

DR. DAVY agreed in the propriety of leaving the decidua to nature before the complete formation of the placenta, but not as to leaving the placenta at any period after its development. There would, he thought, be very great difficulty in removing the decidua whether partially detached or not.

REPORT OF THE TWELFTH ANNUAL MEETING OF THE AMERICAN PUBLIC HEALTH ASSOCIATION.

Held in St Louis, October 14, 15, 16 and 17, 1884.

[Reported for LANCET & CLINIC.]

Continuation of Third Day-Evening Session.

The evening session was opened by president Gihon at 8:15, a large assemblage being present.

MAJ. GEO. M. STERNBERG, Surgeon of the U. S. Army, delivered an able and instructive paper on

DISEASE GERMS.

Which was listened to with close attention by those present.

He began by correcting the statement in the morning papers regarding his expressions of the previous evening, made in the debate on cremation, that he was a disbeliever in disease germs. On the contrary, he was a profound believer in their existence, but was not prepared to go to the length of accepting all that had been said and claimed regarding them by observers in different parts of the world. The speaker dwelt on the morphology of the pathogenic flora, instancing their great variety of form and their modes of multiplication, by budding, etc. He spoke of his labors in the investigation of yellow fever while a member of the commission which was sent to Havana several years ago by the National Board of Health, to study the nature of that disease in its habitat. The multitudinous forms of bacteria, bacilli, spirilli, etc., were spoken of, with suggestions as to the effect on the human system of changes or evolutions of their lives. Mention was made of experiments on rabbits in the inoculation of gutter mud and septic matter from various sources and of different kinds, and the lecture concluded with the projection upon a screen of micro photographs, taken from the life of various microbi, and

highly magnified, equivalent to 72,000 diameters, and some as high as 216,000 diameters.

Among the specimens shown that were explained and commented upon were the following:

1. Epithelial cells, micrococci and bacilli from the tongue of a human.
2. Epithelial cells and innocent bacilli.
3. Spherical and elongated microscopic flora.
4. Bacilli as found in the normal discharges, taken from one of the gutters in Baltimore.
5. Bacteria from swamp mud, multiplied 108,000 times.
6. Bacteria from surface water in Baltimore.
7. Bacilli, unicellular algæ from swamp mud about New Orleans.
8. Bacilli budding, and yellow fever urine.
9. Bacilli of micro derma. From San Francisco.
10. Specimens of the tobia rhamizera. Taken from the gutters of Baltimore in 1881.
11. Chain form of bacilli with rounded edges. Specimen taken from malignant œdema, and specimen of blood from a patient having yellow fever. The former specimen as projected was 216,000 diameters.
12. Longer bacilli, and more slender, with spores at one extremity, taken from a gutter in Baltimore.
13. Micrococcus from the blood of a rabbit inoculated with saliva from a human having an infectious disease.
14. Micrococci in urine undergoing acute fermentation, also micrococci from an acute abscess from the instep of a soldier in Baltimore. (The morphological identity of the last two specimens was observable.)
15. Blood of yellow fever patient, both white and red corpuscles, with refractive bodies.
16. Blood of yellow fever patient again, procured where the disease was more advanced.
17. Spores of bacilli (yeast cells) as found in a banana undergoing fermentation, New Orleans.
18. Bacillus discovered in beef tea, Baltimore.
19. Bacillus subtilis, in rods.
20. Bacillus from anthrax disease, or

splenic fever, taken from a rabbit that was inoculated, where the little animal had just died.

21. *Bacillus anthrax* again, taken from the liver of a rabbit.

22. Bacteria from the kidney of a rabbit dead of anthrax glomerulus.

23. Anthrax blood from rabbit, showing long filaments, floculi, etc.

24. Anthrax bacilli, spores and rods, recently found in Baltimore and Boston.

The following were chromo-lithographs:

25. Anthrax, stained rods.

26. Tubercle bacillus and the epithelioid cells.

27. Tubercle bacillus of Koch, from lymphatic tuberculous glands.

28. Giant cells, bacilli tubercle.

29. Bacilli tubercle, cultivated.

The above paper was discussed by the Rev. Mr. Beuglass, of Brooklyn, after which Dr. L. Bremer of St Louis, followed, and as a preliminary to his paper, the subject of which was "The Bearing of the Discovery of the *Bacillus Tuberculosis* on the Public Health," he commented on the views expressed by the previous speaker, expressing his dissent therefrom in a measure, and avowing full belief in the views and claims put forth by Dr. Koch of Germany. He then proceeded with the reading of his paper, which was listened to with close attention.

Owing to the lateness of the hour, the reading of Dr. Hughes' paper, on "The Hygiene of the Mind and Nervous System" was deferred.

The Association then adjourned to meet at 9 o'clock Friday morning.

THE ADVISORY COUNCIL.

The advisory council met Thursday afternoon for the transaction of executive business. This body, as its name indicates, is a kind of consulting and general advisory assemblage, and in reality shapes the affairs of the Association. President Gihon was in the chair, and eighteen members were present, representing as many states. The first business of the day was the election of officers, which was rapidly despatched. Dr. Jas. E. Reeves, of Wheeling, first vice president during the past year, was unanimously nominated for president; second vice president Hon. Erastus Brooks, of New York, was advanced to the position of first vice president; Dr. H. B. Baker, of Lansing, was nominated for second vice president, and

Dr. J. B. Lindsey, of Nashville, the present incumbent, was again chosen treasurer. The secretary, Dr. I. A. Watson, holds his office another year.

The next matter discussed was the selection of a city for holding the next session. Toronto was presented at the open Association by Drs. Bryce and Covernton; Memphis and Knoxville were championed by the members from Tennessee; and Washington, D. C. was warmly eulogized by the residents of the capital and of the East generally. The contest was an animated one, and the debate was quite lengthy. The factor that operated against Toronto was the evident unwillingness of the council to take the Association outside the United States. The fight finally centered between Washington and Toronto, and the former was selected by a vote of 14 to 10. All present then united in making the selection unanimous, and the meeting adjourned.

Fourth Day.

The Advisory Council recommended that the following gentlemen be elected as officers for the year: Dr. J. E. Reeves, of West Virginia, president; Hon. Erastus Brooks, of New York, and Dr. Henry B. Baker, of Michigan, first and second vice presidents; J. B. Lindsley, Tennessee, treasurer; H. P. Walcott, Massachusetts, Chas. Smart, U. S. A., Geo. B. Thornton, Tennessee, D. W. Hand, Minnesota, Gustavus Derron, Louisiana, and H. B. Holbeck, South Carolina, executive committee.

The Council further recommended that the next meeting of the Association be held in Washington, in December, 1885, and that the thanks of the Association be tendered to the Government of the Dominion of Canada and to the Ontario Board of Health for their kind invitation to hold the next meeting in Toronto, and that the secretary be instructed to decline the invitation.

The conference unanimously approved of the recommendations of the council.

Committees were appointed on the incorporation of the Association and on Prize Papers. On the former committee are Drs. J. E. Reeves, I. A. Watson, J. B. Lindsley, Chas. Smart, Smith Townsend, J. S. Robinson, Hon. J. Eaton, and Dr. Gihon. On the prize committee there are members of the Association and of the Association of State Boards of Health.

The first paper read was that of Dr. W. W. Vinnedge, of the State Board of Health of Indiana. It was on the importance of thorough and complete isolation in scarlet fever cases. He showed how readily the disease was transmitted from a convalescent patient to a healthy person, and urged that a child suffering from it should not be allowed to mingle with or even meet other children until the peeling process following scarlet fever was over. The peeling disappears last on the palms of the hands and soles of the feet. As long as there was any peeling visible the child should be isolated. Generally isolation was necessary for seven or eight weeks, and occasionally as long as thirteen weeks.

FOOD ADULTERANTS.

Dr. B. F. DAVENPORT, analyst of the Massachusetts State Board of Health, read a paper on the food and drugs adulteration laws of that state. He recommended that the milk sold by every dealer in a town or city be analyzed at least once a month, and that other articles of food and drugs be submitted to frequent analysis. To secure uniformity in analysis, and to obtain standards, he thought it would be advisable for the public analysts of the United States to form themselves into an association like the Society of the Public Analysts of Great Britain.

A number of papers on the hygienic position of St. Louis were then read. Mr. J. D. Stevenson, the Health Commissioner, explained the organization of the Health Department, sanitary legislation and abatement of nuisances, and Dr. Spiegelhalter, of the Board of Health, read a paper on the sources and quality of the meat and milk supplies of the city. He said the quality of the milk supplied to the city was a most important question. The great difference in the rate of mortality of children under the age of five in large cities and in the rural districts was due to the poor quality of the milk sold in large cities. In the way of milk inspection, little was being done in St. Louis, owing to the lack of funds. There were ordinances against the sale of adulterated food and watered milk, but they were practically of no avail, owing to the refusal of the city fathers to supply money to the health department to enforce the ordinances. Nothing short of an epidemic would convince the city fathers of St. Louis that money spent on sanitary measures was money well invested.

FALSE ECONOMY.

He said that the city was robbed of nearly half a million dollars per annum by men who sold water for milk — one hundredth part of which would pay the salaries of a chemist and his corps of assistants, who would soon prevent such wholesale adulterations of milk.

Since the abolition of the office of city chemist, nine years ago, the people of St. Louis have lost enough by the purchase of water in milk and by the loss of cream, to have built a new city hospital, defrayed the cost of the additions to the insane asylum, and built the much needed respectable city hall. He showed that \$900,000 per annum is lost to the city through the adulterated milk supply, and contended that it was very poor economy to dispense with the services of the public chemist, the work of whose department would put a stop to this wholesale adulteration or at least make adulteration dangerous for the milk retailer.

LOCAL INTERESTS.

A paper on street paving, by Mr. J. W. Turner, and another on the water supply of St. Louis, were read by title only. Prof. F. E. Nipper, of Washington University, read a paper setting forth the average temperature and prevailing climatic conditions of St. Louis.

A resolution was passed expressing the regret of the association at the death of Dr. Elisha Harris, of Albany, N. Y., one of its earliest members.

Mr. Robert Moore's paper on the public sewerage and house drainage of St. Louis; a paper on the leading local industries of St. Louis and their effect on the health and lives of the operatives, by Dr. George Homan, were read by title only, as were papers on the infant and school population and existing causes unfavorable to their health, by Prof. J. B. Kinsley; and on the chief local factors in the causes of disease and death, by Dr. Robert Leudeking, of the St. Louis Medical College.

THE ADVISORY COUNCIL.

The papers having thus been disposed of the president announced that the following gentlemen, one from each state, had been appointed members of the Advisory Council:

Alabama, R. D. Webb, Livingston; Arkansas, J. R. Dibrell, Little Rock; California, F. W. Hatch, Sacramento; Colorado, Chas. Ambrose, Boulder; Connecticut, C. A. Lindsley, New Haven; Delaware, S. P.

Bush, Wilmington; Florida, R. B. S. Hargis, Pensacola; Georgia, W. H. Elliott, Savannah; Illinois, H. A. Johnson, Chicago; Indiana, E. S. Elder, Indianapolis; Iowa, W. S. Robinson, Muscatine; Kentucky, Pickney Thompson, Henderson; Louisiana, S. S. Herrick, New Orleans; Maine, C. G. Adams, Portland; Maryland, G. H. Rohe, Baltimore; Massachusetts, H. S. Durgin, Boston; Michigan, Foster Pratt, Kalamazoo; Minnesota, C. N. Hewitt, Red Wing; Mississippi, W. Johnson, Jackson; Missouri, Joseph Spiegelhalter, St. Louis; New Hampshire, G. P. Conn, Concord; New Jersey, W. K. Newton, Patterson; New Mexico, W. T. Parker, Fort Union; New York, J. H. Paymond, Brooklyn; North Carolina, T. H. Wood, Wilmington; Ohio, Harvey Reed, Mansfield; Pennsylvania, Crosby Gray, Pittsburg; Rhode Island, C. H. Fisher, Providence; South Carolina, Geo. Simons, Charleston; Tennessee, Col. P. H. Hadden, Memphis; Texas, R. M. Swearington, Austin; Vermont, H. D. Holton, Brattleboro; Virginia, J. L. Cabell, Charlottesville; West Virginia, T. A. Harris, Parkersburg; Wisconsin, J. T. Reeve, Appleton; District of Columbia, Maj. S. A. Robinson, Washington; United States Army, Maj. G. M. Sternberg, Baltimore; United States Navy, Medical Director A. S. Gihon, Washington; United States M. H. S., Surgeon Walter Wyman, Baltimore; Bureau of Education, Hon. John Eaton, Washington.

Dr. Liston H. Montgomery, of Chicago, offered a resolution thanking the retiring president for the very able, impartial and prompt manner in which he had rendered his decisions during the Conference. The motion was carried by acclamation.

Dr. Gihon thanked the members for the compliment paid him, wished them all a pleasant journey home and expressed the hope that he would meet them all in Washington in December, next year, and then declared the Conference adjourned *sine die*.

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Fort Wayne, Ind.

Original Articles.

MURIATE OF COCAINE.

ADDITIONAL EXPERIMENTS AND OBSERVATIONS WITH THE NEW ANÆSTHETIC AT DR. SATTLER'S CLINIC.

By C. H. CASTLE, Clinical Assistant.

It is much to be regretted that the muriate of cocaine, every succeeding experiment with which more than endorses the claims made as to its value in ophthalmic surgery, should be so exceedingly scarce at the present time. The widespread interest, so suddenly excited in the hitherto neglected article, has caused its entire disappearance from the hands of traders upon this side of the Atlantic, and we are told that the cable has been resorted to, to satisfy the impatience of the scientific market.

The necessity of hoarding the small quantity in his possession has precluded Dr. Sattler from making any investigations beyond the domain of his own province—ophthalmology.

And even in the investigations undertaken the material was not always of the best. So limited has been the time that a careful selection of cases has been impossible, yet it is hoped that the aggregate results of a large number of cases, though heterogeneous and presenting some unfavorable conditions, will not weigh less in the final judgment of results than would have done a lesser number of more carefully selected test cases. Many of the patients under observation were children, and the fright and dread natural to their years when subject to the surgeon's knife must be taken into account when studying the notes of these cases.

CASE 23. Girl æt. 11, strumous constitution. Tenotomy of internal rectus for strabismus convergens, l. e.

8:12. Instillation of 5 per cent. sol. muriate of cocaine.

8:18. Dilatation of pupil coming on.

8:20. Another instillation.

8:24. Corneal anæsthesia marked, patient very much frightened and crying.

8:27. Another instillation.

8:30. " "

8:35. Complete anæsthesia of the cornea. Patient placed upon operating table. When speculum was introduced there was no reflex spasm of the orbicularis. Patient evidenced no pain when the conjunctiva was

cut through. When the strabismus hook was introduced and the tendon engaged and partly cut through, her screams and struggles became so violent that it was thought advisable to administer ether. Soon after the commencement of its administration, the patient struggling, a retrobulbar hemorrhage occurred; ether was at once abandoned, and iced compresses and pressure applied over closed lids. Inspection revealed some exophthalmus, but not sufficient to prevent complete and efficient closing of lids. Completion of operation abandoned for to-day.

Two days afterward, the exophthalmus had disappeared. No reaction had followed and the patient was doing well.

Case 24, W.V., aged 13; tenotomy internal rectus l. e. for strabismus convergens.

8:30 and 8:40 instillations of solution mur. cocaine.

8:45, anæsthesia corneæ very marked, more pronounced than in any case yet noted, allowing the surface to be quite firmly pressed upon without producing any reflex movements whatsoever.

8:59, another instillation of the anæsthetic; pupil not dilated ad maximum, but complete anæsthesia corneæ; when speculum was introduced, no reflex spasm; no evidence of pain upon cutting the conjunctiva but pain was manifested when the tendon was cut through. When conjunctiva was seized with forceps and incised, the mucous membrane appeared perfectly dry, nor at first was there any moisture or hemorrhage at the site of the conjunctival wound or opening into the capsule of Tenon.

Case 25, F.H., æt. 8. Strabismus convergens. Tenotomy internal rectus l. e.

8:53, first instillation 5 per cent solution cocaine muriate, followed at nine o'clock by another.

9:04, pupil slightly dilated; anæsthesia corneæ complete.

9:06, third instillation of the anæsthetic.

9:08, operation begun; when speculum was introduced no marked spasm of the orbicularis was noted. The child was much frightened, but evidenced no pain when the conjunctiva was seized by the forceps and incised by the scissors. The conjunctival wound was remarkably dry at first, and for some little time was free from hemorrhage. When the strabismus hook engaged the tendon, and it was afterwards divided by the scissors, pain was complained of, and spasm of the orbicularis occurred. Immediately

after the operation there was still complete anæsthesia corneæ.

Case 26, boy aged 8; iridectomy r. e. History of traumatic cataract, following perforating wound of the cornea, iris and lens; *occlusio pupillæ*.

8:47, 8:58, 9:00, instillations of the solution muriate cocaine.

9:02, iridectomy performed; complete anæsthesia corneæ. (On account of the dense pupillary membrane the patient cannot see the instruments, etc., which approach his eye.) When the speculum was introduced there was a marked spasm of the orbicularis. The speculum was then withdrawn, and an elevator used instead. Some pain was manifested when the knife passed through the sclero-corneal margin.

9:05, After the incision another drop of the cocaine solution was introduced into conjunctival sac, and the patient allowed to rest.

9:09, iridectomy made inwards; patient complained of pain, and there was little doubt that the excision of the iris caused intense pain, which was not blunted by the cocaine.

9:13, anæsthesia corneæ already partly lost. (Is it due to the fact that the patient can now see the instrument approaching his eye?)

Case 27, woman, aged 40; recurrent iritis; firm circular synechiæ; iridectomy. In the course of fifteen minutes four instillations of muriate of cocaine were made. When the operation was commenced, anæsthesia corneæ was complete and the circumcorneal injection was markedly diminished. There was little or no spasm of the orbicularis when the speculum was inserted, although the patient was nervous and dreaded a painful operation, but the fixation of the globe by the forceps, the incision at the sclero-corneal junction and the excision of portion of iris evidently gave great pain. Immediately after the operation the patient was seized with violent and persistent nausea and vomiting which continued without abatement for some thirty-five or forty minutes. Her face was pallid and covered with perspiration, but at no time was the heart's action depressed. When the nausea and emesis ceased she was not in a markedly weak condition.

Case 28, P. B., aged 21; conjunctivitis granulosa subacute; keratitis superficialis; blepharospasm and lachrymation even when eye is covered with a shade.

8:47, first instillation of solution cocaine muriate.

8:52, second instillation; pain, blepharospasm and lachrymation have disappeared, and patient can open his eye and expose it to a good light without any reflex symptoms.

8:45, no mydriasis; he can feel a strabismus hook touching conjunctiva and cornea but it causes no pain. (The patient has a remarkably blunted sensibility of his non-cocainized eye, and the cornea of this eye permits of being touched by the probe as freely as that of the cocainized eye.

November 4, patient presented himself with the same symptoms as yesterday, and after two instillations in the course of ten minutes was afforded the same relief from pain, spasm and lachrymation as before.

Case 29, imbedded foreign body of the cornea; marked circum-corneal injection, great photophobia and lachrymation.

Four instillations were made in the course of twenty minutes. Circum-corneal injection greatly decreased and photophobia and lachrymation suspended. Foreign body was removed without the patient at all complaining of pain.

CASE 30. Operation for the removal of a pterygium l. e.

The pterygium was a remarkably broad one, and extended midway from the periphery to the centre of the cornea. An instillation of a 5 per cent. sol. Mur. Cocaine was resorted to, without informing the patient of the anaesthetic properties of the drug, and, in twenty minutes after the first, a second instillation. In the following twenty minutes three more drops were instilled, making in all five applications of the drug in the forty minutes immediately preceding the operation.

The introduction of the speculum provoked not the slightest blepharospasm and the cornea and conjunctiva were perfectly insensible to the taps and strokes of strabismus hooks and other foreign bodies. The pterygium was lifted up by forceps, dissected loose from its corneal attachment, turned backward and dissected toward its base, *without the patient experiencing the slightest pain* which was a great surprise to him as he had anticipated a most painful operation.

Two conjunctival sutures were then introduced. The introduction of the first, which was toward the caruncle gave rise to no pain, nor, indeed, to any sensation

whatever; the introduction of the second, however, near the cornea, gave rise to some slight pain.

In this case the sclera was remarkably blanched, and the conjunctival wound, though of considerable extent, was free from moisture and hemorrhage.

There are some not uninteresting points to be noted in this case. In the first place the fact that the introduction of the second suture caused pain, while the introduction of the first, perhaps, but a minute previously, had caused none, recalled a thought suggested by Case 31. Iridectomy in a cocainized eye.

It will be remembered, that in the physiological experimentation upon the healthy eye corneal anaesthesia endured for some considerable time under the influence of the drug, averaging one hour and a quarter in the eleven recorded cases.

It was observed however in Case 26 that almost immediately after the operation and some eight minutes after the last instillation of the cocaine, at which time there was complete anaesthesia of the cornea and conjunctiva, that the corneal and conjunctival sensibility were in a great measure restored.

In the pterygium case the conjunctiva, toward the latter part of the operation, became sensible of the passage through it of the needle.

Noting these two cases it would seem that the effect of any considerable injury to the superficial structures of the eye, as, for instance, such a surgical operation as that for the removal of a pterygium or the correction of strabismus restores to them almost immediately the sensibility lost through the agency of the cocaine.

The behavior of those cases in which, after the corneal and conjunctival sensibility had been dulled, strong astringent solutions and the cuprum itself had been applied without subsequent washing of the conjunctival surface, support this view of the case. Before the application of the strong astringent absolute anaesthesia was present, and yet almost invariably within one minute after the application of that astringent (which in the un-cocainized eye would have produced exquisite pain and quite violent reaction immediately) corneal and conjunctival sensibility returned, and announced themselves by severe pain and a subsequent increased reaction.

The following case had an exact counter-

part, so that the history of one is the history of both.

CASE 32. Instillation of a drop of a solution of eserine salicyl. (gr. j. to 3 j.)

Twenty minutes thereafter pupil markedly contracted. Within the course of the next twenty minutes four instillations of the 5 per cent. sol. cocaine mur. Ten minutes after the first instillation of the cocaine and thirty minutes after the application of the eserine to the eye there was complete corneal anaesthesia, though a strongly contracted pupil. In one hour from the instillation of the eserine forty minutes after the first instillation of the cocaine, the pupils of the two eyes corresponded. Anaesthesia seemed to follow upon each application of the cocaine to the eye and to pass away again in a few minutes.

In one hour and a half there was neither myosis, mydriasis, nor anaesthesia.

REMARKS.

In the field of physiological investigation, more has been done and accurate results obtained. At the request of Dr. Sattler, I have particularly noted the following points:

1st. In some cases, however quickly or tardily, the iris responds to the mydriatic effects of the drug, anaesthesia of the cornea keeps pace with the mydriasis, and complete anaesthesia cornea corresponds with the period of maximum dilatation of the pupil, *but* the sensibility of the cornea returns long before the pupil has resumed its normal size.

2nd. In by far the greater number of cases, complete anaesthesia cornea *precedes* the maximum dilatation of the pupil, and passes off before the mydriasis abates.

3rd. The average duration of the anaesthesia is, in physiological eyes (eleven cases noted), one hour and a quarter. The duration of the mydriasis is exceedingly variable, in some cases having disappeared within one hour and a half, in others continuing to quite a considerable degree beyond twenty-four hours.

That anaesthesia of the cornea and mydriasis have no absolutely necessary connection, however, would seem to be indicated by those cases in which anaesthesia was markedly induced in eyes in which strong myosis was present from the use of eserine and opium.

We find noted in the history of two of the cases upon the physiological eye, the fact, that after maximum dilatation had been

attained under the action of cocaine, that "going into the open air" or exposure to light caused a more or less contraction followed by clonic spasms of the pupil, which again yielded to mydriasis when the observers went indoors, or the eye was shaded. Does this not seem to indicate that the exposure acted directly upon the iris, stimulating it to action, and that a bar was interposed to any stimulation arising from retinal impressions? Observations upon this point are too few to determine it—it must be yet further investigated.

Even to the casual reader the foregoing notes will suggest interesting questions, solved or yet to be solved—some as yet perplexing problems of the physiology and anatomy of the eye; such as the composition and properties of the iris tissue, which this valuable agent may assist in elucidating.

So many and varied are these questions, that it is only the simplest that our time and space allow us to touch upon: This much, at least, is settled beyond a doubt—by the agency of cocaine the sufferings of the human race will be lightened many a pang, and the medical profession has conferred another priceless boon, freely and without stint, upon the world.

OTITIS MEDIA PURULENTA OF TWO YEARS' STANDING, WITH SUDDEN DEVELOPMENT OF CEREBRAL SYMPTOMS.

MENINGITIS PURULENTA. DEATH ON THE TWELFTH DAY, NECROPSY REVEALING EXTENSIVE NECROSIS OF PETROUS PORTION OF TEMPORAL BONE.

From Dr. ROBERT SATTLER'S Eye and Ear Clinic. Reported by C. R. HOLMES, Jr., Assistant.

The course and termination of the following case is a forcible illustration of the insidious manner in which purulent inflammation of the middle ear may advance to a fatal issue.

Wilhelm H., aged 9 years, was brought to the clinic July 31st, of this year, for a discharge from both ears and increasing deafness.

Patient has always been in delicate health and has had the usual diseases of childhood. Had varicella when seven years of age. On subsidence of this disease both ears began to discharge, which

has never been profuse. Has been constant in the left, but appeared only at intervals in the right ear. Has *never complained of headache, vertigo, nausea or dimness of vision*, and has been attending school regularly.

Examination of left ear revealed the following: Almost total destruction of membrana tympani, dark, creamy pus in external meatus and tympanic cavity; mucous membrane of latter hyperæmic and swollen; no tenderness in the region of the mastoid nor evidence of caries in the bony portion of the meatus.

Hearing. Can not hear acumeter, but voice, slightly elevated, at three feet. *Air passes freely* through Eustachian tube, by Politzer's method.

Right ear. Can hear acumeter at sixteen inches.

Under local and constitutional treatment patient improved steadily, so that by Sept. 1st there was scarcely any sign of discharge, and hearing was improved in both ears. Patient was told to come only twice a week for treatment.

On account of the hypertrophied tonsils the mother was advised to take him to the throat department. The mention of a possible operation frightened her, as she afterward stated, and the case was lost sight of until Oct. 24th, when the mother came to the clinic stating that on Oct. 17th, while attending school, the boy had been seized with violent headache, pain in the left ear and vertigo. Was sent home and went to bed. The above symptoms, with the addition of "hot spells," and increasing pain in the head, continued during the next two days. Vomiting now began and a physician was called in. Vomiting ceased on the fourth day, but the general symptoms became more formidable and on the 24th the mother came as stated above, and asked Dr. Sattler to have the boy visited. Patient was now visited several times each day, either by Dr. Sattler, by Mr. C. H. Castle, or by myself.

Oct. 24th. Found patient in a delirious and semi-comatose condition, head thrown back, eyes widely open and globes rotated upwards, pupils responded slowly to light, no photophobia. Ophthalmoscopic examination revealed choked disk in the left eye, but not in a marked degree. None of the extrinsic muscles affected. Patient makes no reply to questions, however loud, but slowly protrudes tongue when told to.

Sordes on lips, teeth and tongue. Movements of bowels and bladder completely under patient's control. Moans frequently and puts hand to left ear; this ear emits a very fetid odor, but no discharge externally; tympanic cavity filled with soft, caseous matter, on removal of which the mucous membrane appears greatly swollen; air failed to pass on inflation.

The mother states patient has had chills, followed by fever, at irregular intervals during the last few days.

Temperature 105.2°, pulse 132, respiration 30. Gave wet pack, duration 7 minutes, temperature fell to 102.5°. Ordered hot fomentations to ear and ice cap to head, egg-nog and milk at stated intervals, anti-febrifuges and anodynes. 10 p.m., resting well, temperature 103°.

Oct. 25th. Patient had two chills, at 1 and 2:30 this morning; temperature 102.5; discontinued aconite and ordered ammonium carbonate. Left pupil markedly dilated, no response to light.

Oct. 26th. At 10 p.m. the temperature went up to 104.2°, pulse 140, weak and dicrotic; gave half ounce of brandy, and wet pack, bringing temperature down to 101.5°.

Oct. 27. Has been more delirious, has incontinence of feces and urine. Ordered stimulants every hour.

Oct. 28th, 11 a.m. Found patient in typhoid state, eyes rolling about, lids open, apex beat 145, temperature 104°; a greenish-gray, turbid fluid was freely discharging from left ear. Placed patient on right side and cleansed left ear; in 6 minutes the meatus and concavity of concha were filled to overflowing; removed it several times with a syringe, but each time the ear filled again in from 4 to 6 minutes.

At 3 p.m. a high delirium set in, struggled violently, and had to be held in bed. Gradually grew weaker, and expired at 4 p.m.

No paralytic phenomena existed at any time, and according to the mother's statement, no convulsion occurred.

AUTOPSY.

Dr. Joseph Eichberg, who kindly made the post mortem, 18 hours after death, reports as follows:

"On removing the calvarium, the superior longitudinal sinus was found to contain a large quantity of dark, semi-fluid blood. The membranes were all unduly congested, the vessels filled and tortuous, and near the

convexity of both hemispheres, near the upper termination of the fissure of Rolando, small islands of pus had accumulated in the pia mater. The base of the brain was literally bathed in pus, which had filled the subarachnoid space and distended the meshes of the pia mater. The cranial nerves passed through this purulent effusion, which completely enveloped them, and which also extended down into the spinal canal. The dura mater over the petrous portion of the left temporal bone was lifted from its attachments by purulent accumulations over a space the size of a silver dime. The bone was completely necrosed, and perfectly white, no line of demarcation having been clearly established. The mastoid cells were filled with pus, and the details of the structures of the middle ear were not recognizable. The ventricles were filled with a fluid similar to that found in the subarachnoid space, and the brain was very much softened throughout. The fluid was of an acid, offensive odor, and identical with that escaping from the ear."

In comparing the history, symptoms and autopsy, one is impressed with the negativity of symptoms pointing to cerebral or meningeal complications, till within twelve days before death. And yet we find here pathological alterations that must have existed for weeks, perhaps months. There can be little doubt but that the destructive process was at work when he first came to the clinic, and yet his condition improved, the discharge was less, and hearing improved to an extent quite noticeable to his mother and teachers. This might be due to an improvement in the right ear only, but by actual test there was an improvement in the left also. His mother stated that he was enjoying as good health as he ever did while feeling his best. What means, then, if any, were there to aid in a correct diagnosis?

We found no mastoid tenderness, and pains which he formerly complained of at intervals disappeared. Erosions, although they must have existed to some degree on the roof of the tympanic cavity, were not visible through the ring-like remains of the membrana tympani, and inflation was readily performed. There were only two things which might have aided in diagnosing the necrosis of bone, and that was the odor peculiar to diseased bone. This became much less under treatment, and as the

case was progressing so favorably no particular attention was paid to it; second, ophthalmoscopic examination of the eyes, to determine if optic neuritis existed, this however, was not done at that early period.

NOTES ON THE METEOROLOGICAL MEDICINE OF CINCINNATI.

By THOMAS C. MINOR, M.D.,
Cincinnati, O.

That the different seasons of the year exert a decided influence in developing and modifying certain types of disease is a fact well known to all who have studied the subject of meteorological medicine in connection with vital statistics.

Man lives in an atmospheric ocean, an ocean whose depths and surface are constantly undergoing change. Temperature, air currents, and electricity are the three essential factors in the production of meteorological phenomena. Heat alternates with cold, dryness with moisture. Sometimes the skies are clear, at other times clouds and heavy fogs enshroud the earth. It rains, hails, snows, the winds blow, the lightning flashes.

Temperature is the principal agent in influencing the changes in the seasons as it is in inducing many pathological changes observed in the human organism. Extremes of heat and cold largely increase the mortality rate of all cities.

The dryness or moisture of the atmosphere also seems to effect changes in the progress of certain affections. Our patients all quickly realize the difference between a *dry* cold or warm atmosphere and a *moist* cold or warm atmosphere. The earth forms the bottom of our atmospheric ocean, and, as this bottom is composed of animal, vegetable and mineral substances constantly undergoing chemical decomposition, it follows that the atmosphere must absorb certain salts and gases from the earth and hold these elements of terrestrial origin in suspension. Such substances vary in quantity and quality following the season. Some promote the purity of the air we breathe, others render it noxious. In the autumn when all vegetation is undergoing a process of fermentation, when the soil is filled with rotting tubers and fibers, and the atmosphere is moist and warm, noxious exhalations rise from our western valleys, the miasm of poisonous malaria, this is es-

TABLE I.	Week ending	Deaths from all causes.	Mean weekly value of Barometer.	Mean weekly value of Thermometer.	Rain in inches. — clear.	Principal cause of death.	Class.	Order.
1874	March 7	97	29.44	48°	1.59	Scarlet fever	Zymotic	Miasmatic
	" 14	99	30.17	35°	—	do.	do.	do.
	" 21	93	30.01	52°	.72	Consumption	Constitutional	Tubercular
	" 28	100	30.20	43°	.01	Scarlet fever	Zymotic	Miasmatic
1875	March 6	105	30.00	34°	1.31	Pneumonia	Local	Respiratory
	" 13	102	29.93	41°	.74	do.	do.	do.
	" 20	93	29.88	38°	1.35	do.	do.	do.
	" 27	96	30.20	40°	.22	do.	do.	do.
1876	March 4	133	30.13	39°	.24	Small pox	Zymotic	Miasmatic
	" 11	128	29.94	54°	.76	do.	do.	do.
	" 18	141	29.98	37°	1.79	do.	do.	do.
	" 25	110	29.92	33°	1.37	do.	do.	do.
1877	March 3	81	29.99	41°	.46	Consumption	Constitutional	Tubercular
	" 10	86	30.03	34°	2.40	do.	do.	do.
	" 17	82	30.05	35°	1.19	Pneumonia	Local	Respiratory
	" 24	80	29.91	41°	.68	Consumption	Constitutional	Tubercular
	" 31	91	29.99	43°	.74	do.	do.	do.
1878	March 2	100	30.07	44°	.43	Consumption	Constitutional	Tubercular
	" 9	80	29.96	54°	.12	do.	do.	do.
	" 16	92	29.89	54°	2.40	Pneumonia	Local	Respiratory
	" 23	100	30.02	51°	—	Consumption	Constitutional	Tubercular
	" 30	74	29.81	47°	.97	do.	do.	do.
1879	March 1	107	30.12	38°	.07	Scarlet fever	Zymotic	Miasmatic
	" 8	97	30.29	47°	1.06	Consumption	Constitutional	Tubercular
	" 15	111	30.09	50°	.22	Scarlet fever	Zymotic	Miasmatic
	" 22	116	30.09	34°	2.46	do.	do.	do.
	" 29	92	30.00	50°	1.55	Consumption	Constitutional	Tubercular
1880	March 6	88	30.00	49°	1.12	Consumption	Constitutional	Tubercular
	" 13	66	30.01	38°	1.24	do.	do.	do.
	" 20	108	30.13	42°	.15	do.	do.	do.
	" 27	95	30.09	47°	1.42	do.	do.	do.
1881	March 5	99	29.74	36°	.50	Consumption	Constitutional	Tubercular
	" 12	108	29.24	43°	.13	do.	do.	do.
	" 19	96	29.95	48°	1.33	do.	do.	do.
	" 26	95	29.85	40°	.44	do.	do.	do.
1882	March 4	116	30.04	55°	.71	Small pox	Zymotic	Miasmatic
	" 11	115	30.19	44°	1.76	do.	do.	do.
	" 18	117	30.09	47°	1.17	do.	do.	do.
	" 25	98	30.19	45°	2.86	do.	do.	do.
1883	March 3	165	30.36	47°	.10	Consumption	Constitutional	Tubercular
	" 10	155	30.12	37°	.42	do.	do.	do.
	" 17	155	30.06	42°	.14	do.	do.	do.
	" 24	124	30.00	35°	.27	Pneumonia	Local	Respiratory
	" 31	145	29.98	41°	2.65	do.	do.	do.

pecially the case near swamps and marshy land. As the rays of the now far off sun become more and more oblique and winter covers the earth with a sheet of ice vegetable decomposition is checked and the further production of miasm ceases until the following spring, when the rising temperature and moisture of thawing weather again liberates the products of putrefaction. Spring passes by a rapid transition, in this latitude, to summer, the sun lingers longer with us at its rising and setting and we feel the greater heat of its direct rays. Vegetation, in the form of trees, plants and flowers now pours out immense volumes of oxygen, and, oxidation destroys the last vestige of the fermenting vegetable detritus of the preceding autumn.⁽¹⁾

The food product of the different seasons also varies with the temperature and exerts an undoubted influence on the human organism.⁽²⁾ During warm dry seasons our fruits contain an abundance of saccharine matter while grains and vegetables are very rich in starchy materials. In moist cold seasons our fruits, grains and vegetables are watery and tasteless and contain nutritive principles only in small quantities.

Let it not be understood from these remarks that we consider all diseases due to meteorological changes. Such a proposition would be absurd and too easily refuted, yet it may be safely stated that many diseases owe their direct origin to external causes.

The most enthusiastic advocate of the germ theory must admit that temperature plays an important role in the production of his pets, for the propagation of the lowest forms of organic life is more or less dependent on heat. The so-called germs of yellow fever lose their vitality at 32° F., while the germ of scarlatina and diphtheria seems to be enfeebled by a tempera-

ture of 90° F. and upwards. The medical scientist of a hundred years hence will, no doubt, be able to determine *what caused the germ*, and, swing around in the end to the old time doctrines enunciated by the Philosopher of Cos. Let us trust that the disciples of the microscope will not forget the uses of the thermometer.

The action of heat and cold on the skin and organs of respiration, digestion and secretion have not been as carefully studied as might be desired. Yet man, the most striking example of animal life inhabiting our atmospheric ocean, is constantly changing his functional habits, so to speak, with each marked rise and fall in temperature, and, if he be what is called healthy, readily adapts himself to external surroundings. In the normal or healthy individual the physiological changes induced by temperature pass for the most part unnoticed, but, in the unhealthy body, in which pathological modifications have occurred, such changes are always observed by the invalid.

In its normal condition the internal organism is extremely sensitive to all impressions from without. The innate vitality of man, which exists entirely independent of his volition, enables him to repel injurious influences and at the same time utilize everything calculated to insure his bodily good. It is this constant action of repulsion and attraction going on between man and the physical world that tends to promote what is known as life. When marked pathological changes occur in the human body from disease, or functional activity is checked by senility, vitality becomes more and more feeble and what is known as death ensues.

The affinity of the body for air can only be compared to the absorbing love of the sponge for water. Bathing in the atmospheric ocean, the skin and respiratory tract especially absorb the air in large quantities, but, over and beyond this absorbent power there is another important factor, *i.e.*, atmospheric pressure, a power that is simply immense, when we come to closely analyze it. Unfortunately the subject of the influence of atmospheric pressure on disease has never been very carefully investigated, nevertheless, we send our patients to the lowlands of Florida and the altitudes of Colorado, for the same affections of the respiratory system. Temperature, age and sex all unite to a certain

1 The action of oxygen, arising from vegetation, in destroying the noisome products of even an mal putrefaction may be observed most clearly on the flat open meadows of Ohio, Indiana and Kentucky in proximity to groves of trees. During the past summer the writer, while visiting the "Blue Grass" region, repeatedly noticed the remains of sheep lying on pasture grounds, which emitted no offensive odor, and had even been neglected by that Prince of Scavengers, the turkey buzzard, whose scent of carrion is so keen.

2 It is a notorious fact that almost all the deaths from cholera morbus and sporadic cholera occur during the raspy season.

TABLE II.	Week ending	Deaths from all causes.	Mean weekly value of Barometer.	Mean weekly value of Thermometer.	Rain in inches. — clear.	Principal cause of death.	Class.	Order.
1874	April 4	118	30.12	41°	1.02	Scarlet fever	Zymotic	Miasmatic
	" 11	86	30.00	44°	1.31	Consumption	Constitutional	Tubercular
	" 18	92	30.14	52°	.90	Scarlet fever	Zymotic	Miasmatic
	" 15	86	29.96	52°	1.35	do.	do.	do.
1875	April 3	91	30.07	54°	1.07	Consumption	Constitutional	Tubercular
	" 10	87	30.06	63°	.08	do.	do.	do.
	" 17	72	29.87	43°	.82	do.	do.	do.
	" 24	97	30.02	45°	.18	do.	do.	do.
1876	April 1	108	29.87	39°	1.04	Small pox	Zymotic	Miasmatic
	" 8	117	29.97	48°	.46	do.	do.	do.
	" 15	124	29.93	59°	2.18	do.	do.	do.
	" 22	102	30.04	55°	.02	Pneumonia	Local	Respiratory
	" 29	100	29.52	56°	.50	Small pox	Zymotic	Miasmatic
1877	April 7	74	29.92	52°	.02	Consumption	Constitutional	Tubercular
	" 14	82	29.80	52°	.88	Pneumonia	Local	Respiratory
	" 21	77	29.78	60°	1.17	Consumption	Constitutional	Tubercular
	" 28	80	29.95	60°	.25	do.	do.	do.
1878	April 6	86	29.73	52°	.12	Pneumonia	Local	Respiratory
	" 13	92	29.74	61°	1.40	Consumption	Constitutional	Tubercular
	" 20	90	29.86	63°	.42	do.	do.	do.
	" 27	90	29.70	62°	1.06	do.	do.	do.
1879	April 5	104	29.96	40°	.08	Scarlet fever	Zymotic	Miasmatic
	" 12	107	29.97	51°	.84	do.	do.	do.
	" 19	84	29.86	51°	1.15	do.	do.	do.
	" 26	120	30.16	64°	—	Consumption	Constitutional	Tubercular
1880	April 3	105	30.02	53°	.49	Consumption	Constitutional	Tubercular
	" 10	96	30.06	52°	.16	Convulsions	Local	Nervous
	" 17	110	30.05	55°	2.30	do.	Constitutional	Tubercular
	" 24	97	29.93	64°	.99	do.	do.	do.
1881	April 2	96	29.87	48°	.76	Consumption	Constitutional	Tubercular
	" 9	116	29.96	38°	1.02	do.	do.	do.
	" 16	121	29.93	47°	.90	do.	do.	do.
	" 23	109	30.27	59°	.04	do.	do.	do.
	" 30	122	30.04	64°	1.29	do.	do.	do.
1882	April 1	158	30.08	54°	.34	Small pox	Zymotic	Miasmatic
	" 8	170	30.11	69°	.54	do.	do.	do.
	" 15	140	30.06	43°	.73	do.	do.	do.
	" 22	127	29.96	54°	.76	do.	do.	do.
	" 29	145	30.04	53°	.68	do.	do.	do.
1883	April 7	118	30.05	48°	.85	Pneumonia	Local	Respiratory
	" 14	121	29.99	60°	.20	Consumption	Constitutional	Tubercular
	" 21	120	29.98	61°	.41	Pneumonia	Local	Respiratory
	" 28	86	29.93	52°	2.26	Consumption	Constitutional	Tubercular

extent as modifiers of meteorological action. The extremes of life, infancy and old age, exhibiting the least resistance to the influence of external causes.

The normal temperature of man being 98° F. it is at once noticeable that he lives, as a general rule, in an atmosphere the temperature of which is lower than that of his body.

As before remarked, the influence of temperature is most marked at its extremes. During the summer season or period of highest temperature American mortality tables exhibit a largely increased death-rate from diarrhoeal diseases and disorders of the digestive and nervous system. The cause of this is obvious. Heat always acts as a direct stimulant to the liver, hepatic secretion is increased to such an extent as to cause serious disturbances in the intestinal canal. The proper assimilation of food is interfered with and digestion is slower. At this period too the skin, to a large extent, assumes the functions of the kidneys, and the action of transpiration is most marked. This decided functional change in the sudaporous glands covers the body with the watery substance called sweat, which being constantly dissipated by evaporation on the surface of the skin produces the requisite degree of coolness necessary to offset the more direct effects of the high external temperature and thus equalizes the heat. When this function is checked too suddenly internal disturbances of the organism occur immediately, as, for instance, cholera infantum and convulsions in children, sunstroke and meningitis in adults. The action of heat on the nerve centers is especially marked, congestion of the brain following exposure to the direct rays of the sun or radiated heat and the patient becomes comatose, and finally dies in spasms. A thermometer marking 98° F. at Cincinnati with an unclouded sky is a sure indication that deaths from sunstroke are to be recorded. At times the mercury has indicated a much higher degree of temperature and deaths from cholera infantum, diarrhoea, convulsions and sunstroke were exceedingly numerous. The week ending July 16, 1881, will ever be remembered in the annals of this city, on that week 583 deaths were recorded, of which 264 were from sunstroke and 150 due to excessive heat. The season was exceedingly dry, the amount of humidity, at times, being less than one-half the point of full satura-

tion, *i.e.*, 45. The thermometer marking over 104° F. on several days.^(*)

The effects of extreme heat on the animal economy and its action in increasing the circulation and accelerating respiration are so well known as to require no comment. The pulse of the warm climate is much more rapid than that of the cold climate.

When we come to observe the action of a low temperature on the animal organism we notice an entirely different state of affairs from what occurs when the body is exposed to a high temperature. In winter digestion is most perfect, the circulatory and respiratory functions slow and easy; the body exerts its full functional power to increase internal calorification and thus resist the injurious influences exerted by the low temperature without. There is diminished sensibility of the skin, and the kidneys again essay the full performance of their duties. In healthy persons the processes of assimilation and nutrition are rapidly carried on and fat is deposited on the more external portions of the body as a protection to the internal organs from the external temperature. When sudden thermometric changes occur and the body is exposed to a too low temperature congestions of the internal organs take place pneumonia, bronchitis, nephritis, etc.

It is not the writer's intention to discuss at length the influence of temperature on vital action, nor to enter into elaborate physiological explanations as to the effects of heat and cold on the human organism.

A close observation of the meteorology and vital statistics of Cincinnati for the past fifteen years, however, has led him to form certain conclusions in regard to the more frequent visitations of some diseases at fixed periods of time, at least that the mortality from these diseases is greater or less following the different seasons, and, inasmuch as the variation of season is induced by meteorological changes, that the variations observed in disease are likewise

³ In Upper Egypt, at Senegal, in Manilla, at the Cape of Good Hope, and in some portions of India and China a temperature ranging from 105° to 110° F. is not uncommon. In India a temperature of 105° in the shade rapidly kills off the British troops with sunstroke. At Pekin, in July, 1743, a temperature of 105° was noticed for a number of days and eleven thousand four hundred persons (11,400) dropped dead from heat in the streets of the city. This fatal epidemic, due to the direct rays of the sun, was more fatal than cholera.

TABLE III.	Week ending	Deaths from all causes.	Mean weekly value of Barometer.	Mean weekly value of Thermometer.	Rain in inches. — clear.	Principal cause of death.	Class.	Order.
1874	May 2	89	30.05	57°	.38	Scarlet fever	Zymotic	Miasmatic
	" 9	80	30.00	60°	.31	Consumption	Constitutional	Tubercular
	" 16	95	30.02	73°	.60	Scarlet fever	Zymotic	Miasmatic
	" 23	82	30.04	60°	.02	Measles	do.	do.
	" 30	83	29.99	76°	—	Scarlet fever	do.	do.
1875	May 1	87	29.88	54°	.99	Pneumonia	Local	Respiratory
	" 8	84	29.86	57°	.20	do.	do.	do.
	" 15	89	29.99	63°	1.98	do.	do.	do.
	" 22	89	30.11	64°	.64	Consumption	Constitutional	Tubercular
	" 29	75	29.88	75°	.25	do.	do.	do.
1876	May 6	113	29.90	56°	.20	Small pox	Zymotic	Miasmatic
	" 13	112	29.93	62°	.05	do.	do.	do.
	" 20	101	30.00	72°	.50	do.	do.	do.
	" 27	97	30.00	71°	.58	Consumption	Constitutional	Tubercular
1877	May 5	75	29.88	48°	.87	Pneumonia	Local	Respiratory
	" 12	73	29.91	55°	.44	Consumption	Constitutional	Tubercular
	" 19	75	30.04	72°	.38	do.	do.	do.
	" 26	75	29.91	66°	.07	do.	do.	do.
1878	May 4	97	29.79	64°	.79	Consumption	Constitutional	Tubercular
	" 11	71	29.90	60°	1.06	do.	do.	do.
	" 18	79	29.96	55°	.76	Pneumonia	Local	Respiratory
	" 25	81	29.91	71°	.03	do.	do.	do.
1879	May 3	122	30.01	59°	.08	Scarlet fever	Zymotic	Miasmatic
	" 10	83	30.13	60°	.45	do.	do.	do.
	" 17	90	29.93	71°	.43	Consumption	Constitutional	Tubercular
	" 24	80	30.03	70°	—	do.	do.	do.
	" 31	95	30.01	74°	3.35	Scarlet fever	Zymotic	Miasmatic
1880	May 1	94	30.10	57°	2.12	Consumption	Constitutional	Tubercular
	" 8	105	30.01	71°	—	do.	do.	do.
	" 15	111	30.13	68°	2.42	do.	do.	do.
	" 22	101	30.02	71°	1.03	Pneumonia	Local	Respiratory
	" 29	124	30.00	74°	1.03	Diarrheal dis.	Zymotic	Miasmatic
1881	May 7	100	30.11	64°	.97	Consumption	Constitutional	Tubercular
	" 14	114	30.03	77°	1.23	do.	do.	do.
	" 21	81	29.94	58°	—	do.	do.	do.
	" 28	95	30.03	76°	—	do.	do.	do.
1882	May 6	155	30.07	57°	2.21	Small pox	Zymotic	Miasmatic
	" 13	154	29.82	64°	2.03	do.	do.	do.
	" 20	170	30.10	59°	.10	do.	do.	do.
	" 27	150	30.05	60°	1.21	do.	do.	do.
1883	May 5	103	30.05	60°	—	Consumption	Constitutional	Tubercular
	" 12	107	30.05	65°	.16	do.	do.	do.
	" 19	105	29.98	64°	.96	do.	do.	do.
	" 26	109	29.86	52°	2.37	do.	do.	do.

more or less dependent on the same causes. It is not within the scope of this short paper to give the full statistical proofs on which our conclusions are based. Masses of figures grow wearisome even to the compiler, but, should any one desire to confirm the general conclusions arrived at they are respectfully referred to the "Annual Reports of the Cincinnati Health Department," from 1867 to 1883. The full *Weekly Reports* of Cincinnati only date back to the early part of August, 1873. *Only one complete set of these Reports is in existence, i.e.,* that belonging to the writer. This being the case, we may be pardoned the insertion of a few vital statistics, as they are the only record extant of the total weekly footings for the sever. I hundred of weeks past. Let us now proceed to make a short study and analysis of the seeming influence of season on disease in this city, as exhibited especially by the "Weekly Reports" dating from 1873 to 1883, inclusive, prefacing this analysis by the remark that the city of Cincinnati is located in latitude $39^{\circ} 6'$, longitude $84^{\circ} 27'$.

• DISEASES OF SPRING.

The accompanying tables exhibit the principal causes of death in spring, and, are therefore, to a certain extent, the index of diseases prevailing at that time.

[TO BE CONTINUED.]

THE CURE OF CROOKED NOSES BY A NEW METHOD.

A Paper read before the Philadelphia County Medical Society, September 17, 1884.

By JOHN B. ROBERTS, M. D.

I present this patient to the Society, to show the manner in which I treat the very disfiguring lateral deformity of the nose, so often seen after falls or blows which have fractured the septum and cartilages. The method is, I believe, original. It is certainly attended with very little inconvenience to the patient, who, after recovering from the anæsthetic, can at once attend to his occupation, without wearing any apparatus to call attention to the surgical procedure by which this crooked nose is being made straight and shapely. The usual advice given to patients with deformed noses, from nasal fracture sustained in childhood or later, is to undertake no surgical treatment, but to become reconciled to the disfigurement of feature as best they may. This is, I am sure, improper

advice. The cosmetic objection to a crooked nose is cogent; and, moreover, obstruction of one nostril, from the displaced cartilages, is a frequent accompaniment of such lateral deviation of the tip of the nose.

This man sustained, ten years ago, a fall upon the face, from which he recovered, with the end of the nose bent to the right, and with considerable obstruction of the left nostril. I operated on him day before yesterday. You see now a straight nose, and nothing to call attention to the operation, except a small piece of black court-plaster a little to the right of the nasal bridge. Just within the right nostril, close inspection reveals the head of a pin, situated on the side of the septum, near the columella. The method of operation, therefore, is certainly not objectionable on account of making the patient unpleasantly conspicuous during treatment. This evening I merely wish to show the man, and refer to my method of dealing with such cases, because at a later time I hope to bring the subject of curing nasal deformities before the Society in a more formal and elaborate manner. Then, I may have no patient undergoing straightening of the nose, to illustrate the remarks.

Replacement of the deformed structures in this case was very simple. With a scalpel introduced through the left nostril, I perforated the cartilaginous septum at its upper and back part, and made a long incision through it in a direction downwards and forwards. This permitted me to push the whole cartilaginous portion of the nose to the left, and overcome to a great extent the lateral deformity. To retain the parts in this position, I introduced a steel pin about one and one-fourth inches long, into the right nostril, and passed it completely through the anterior and upper segment of the divided septum, near the columella. Having the movable portion of the septum thus transfixed, I was enabled, by carrying the head of the pin to the left, to move the anterior part of the nose to the left, and retain it there by imbedding the point of the pin deeply in the immovable cartilaginous septum and mucous membrane at the back of the left naris. In other words, I incised the deformed cartilage, and pinned it in position very much as you would pin a flower in the button-hole of a coat. There still remained a little deflexion of the end of the nose to the right,

which seemed to be due to mal-position of the lateral cartilage close to the right nasal bone. With a tenotome in the right nostril, I pared the cartilage loose, without perforating the skin, and pinned the parts over to the left by a second pin inserted from the cutaneous surface of the dorsum on the right of the median line. The point of this pin was fixed by having its point imbedded in the tissues of the left naris. It is the head of this second pin that is covered by the small square of court-plaster. The correction of the angular deformity of the septum removed most of the occlusion of the left nostril, which had greatly annoyed the patient.

I have thus given an idea of the method which has, I believe, great capability for relieving unsightly nasal deformities. The novelty consists merely in pinning the parts in position until cicatrization takes place. Endeavors have occasionally been made, as by Mr. Adams, Dr. Weir, and others, to hold deflected noses in position, after operation, by the use of clamps, rods attached to the forehead, adhesive plaster, plugs, and similar devices. All of these are objectionable, because so conspicuous and troublesome, and would probably be adopted only in instances of great deformity. The pin method, however, leaves no noticeable scar, is not troublesome to the patient, and is applicable, therefore, even to those slight deformities, whose chief annoyance is an æsthetic and cosmetic one. I leave the pins in position for about two weeks.

A few years ago, Dr. Mason, of Brooklyn, recommended the use of steel needles to hold the nasal bones in position, when, after recent comminuted fracture, it was difficult to keep the fragments sufficiently elevated. He transfixes the nose below the depressed fragments, and carries a piece of plaster or a rubber band across the external surface of the bridge from one end of the needle to the other. The needle acts as a girder to tie the base of the nasal arch and prevent its falling in. This is a different use of the pins or needles from that which I am describing, and for a different purpose.

I have pins of lengths varying from one inch to two and one-fourth inches, and with flat heads, so that there will be little projection under the court-plaster to attract attention when the patient is in public. The heads are square, that the pins while

imbedded may be, if necessary, readily rotated by the fingers.

When the deformity is in the osseous portion of the nasal bridge, section with small chisels is usually necessary. Discussion of this topic, however, would carry me beyond the limits of the present subject.

Free incisions are essential in obtaining good results in cases of nasal deformity such as was exhibited by this patient. The surgeon must not spare the knife and thereby spoil the nose. Secondary operations may sometimes be required to get the best results. If a simple incision did not allow proper adjustment, I should excise portions of the cartilage with the oval punch or the scalpel, or make multiple stellate incisions with the stellate punch, and so produce general flexibility of the cartilage.

Recurrence of deformity would, I think, be less likely to occur after free incision, pinning and cicatrization, than after simple dilatation, with or without incision with the stellate punch.

DISCUSSION.

DR. JURIST: I have been so unfortunate as to have operated on a few cases of divided septum, but generally found that after two or three months the septum had returned to its former position. I hope Dr. Roberts will state whether his cases remained permanently straight.

DR. ROBERTS: If free incisions are made, the deviation ought not to return. If, after operation, the parts are held in place two weeks, the chances are that they will remain in the new position as surely as after the original accident.

DR. JURIST: I would not like Dr. Roberts to understand that I did not fracture the septum. I do so in all cases—using the stellate punch—and do not rely simply on a plug.

OVARIOTOMY AT THREE MONTHS OF AGE. — A child three months old was noticed to have a swelling in the inguinal region. Six days after the swelling had been first noticed, it was operated upon, and found to be the ovary and Fallopian tube; both were removed. In sixteen days the child left the hospital, the wound having healed by first intention. — *Chiene in the Edinburgh Med. Journal.*

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MURIATE OF COCAINE.

CORRECTION BY DR. ROBERT SATTLER.

Editor Lancet and Clinic:

The article on "Muriate of Cocaine," published in the preceding number of your journal contains several errors and contradictory statements, which I desire to correct. The MSS. was handed in so late that a personal supervision of the proof was not practicable and several incomplete statements and omissions resulted in consequence.

The name of the discoverer of the properties of the drug is Dr. *Koller*, not Keller. His friend's name is Dr. Brettauer.

On page 505, in summarizing the results of action of the remedy, under section III., the sentence beginning, "when the non-cocainized eye, etc.," remains incomplete. It should read: "*when the non-cocainized eye is touched, the blepharospasm and lachrymation are conspicuous and afford the best illustration of the interruption of reflex movements in the fellow or cocainized eye.*"

Another error and several omissions have crept in under section IV., same page, in the sentence "in ten cases it was never complete, although in several cases the pupil presented a maximum dilatation." Then follows an evident contradiction, "so that response to light was altogether abolished, etc." It should read:

IV. Transitory mydriasis variable in degree and duration. In ten normal cases it was never complete or fixed, even with maximum dilatation of the pupil corresponding to the period of complete anaesthesia of the superficial structures, more or less response to light is observed. The excursions of the pupil of the cocainized eye, the fellow eye securely closed, become more and more restricted, but response to light is never completely abolished.

I desire also to state that the drug was obtained through Mr. John Keeshan, to whom, together with other druggists, application was made by Dr. S. C. Ayres and myself immediately after reading Dr. H. D. Noyes' letter in the *Medical Record* of Oct. 11, '84.

ROBERT SATTLER.

A QUERY!

The question now among fashionable people is who wrote the New Society Novel, entitled "MARRIED ABOVE HER," which T. B. Peterson & Brothers, Philadelphia, have in press, and to be published immediately. It is said to be a true story taken from life and by a lady moving in New York society.

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Cincinnati, November 8, 1884.

The Week.

ACADEMY OF MEDICINE.—At the next meeting, November 10, Dr. Zenner will read a paper on "Apoplexy."

CINCINNATI MEDICAL SOCIETY. — Next Tuesday evening, November 11, Dr. Eichberg will report "Two Cases of Gall-Stones."

HYDROCHLORATE OF COCAINE IN OBSTETRIC PRACTICE. — F. W. Hendley, assistant to Dr. W. H. Taylor, in the obstetric department of the Cincinnati Hospital, having occasion to pass the catheter in a case where there were severe lacerations in the vicinity of the meatus urinarius on several occasions found the pain greatly diminished by previously applying ten to fifteen drops of a two per cent. solution of the new anæsthetic.

HYDROCHLORATE OF COCAINE. — This new local anæsthetic is justly attracting very great attention from the medical world. Indeed there seems to be good cause for planting another milestone in the progress of medical science. It is an indisputable fact that when it becomes necessary to produce profound anæsthesia by the use

of chloroform or ether, we voluntarily conduct the patient very near to the edge in border land which separates him from that undiscovered country from whence no one ever returns who has once entered its portals. Hence, we evince no surprise that physicians are enthused over the discovery of a preparation that is no doubt destined to work a revolution in the production of anæsthesia for surgical or other purposes.

The usefulness of hydrochlorate of cocaine as an anæsthetic, when applied to mucous surfaces, is already determined, and its value in operations about the eye, mouth, throat, nose, vagina and rectum is already known, and we anticipate the early announcement of its combination with some other preparation that will make it equally available and doubly useful in its application to the true skin, for local anæsthetic effects for both minor and major surgical operations.

Our readers are already aware of the effects attributed to erythroxylon coca as a conservator of strength and waste of tissue and its employment by the South American Indians for this purpose when about to undertake long and exhaustive marches and feats of strength.

While we recognize and hail the advent of this remedy of inestimable value as an anæsthetic and conservator of vital forces and elementary tissue, may we not hope to find in this or some preparation possessing similar properties an effectual antidote for malignant disease, especially in the epitheliomata.

THE ELIGIBILITY OF HOMEOPATHIC GRADUATES TO MEMBERSHIP.—*From Proceedings of The Medical Society of New York.*—The minutes of a meeting of the Comitia Minora were read, showing that among the candidates for membership there were two gentlemen who were graduates of homeopathic colleges. To these candidates the following-named questions had been put: 1. Whether they belonged to a homeopathic medical society. They had answered, "No." 2. Whether they were willing to drop their sectarian name. They answered that they had never prac-

ticed under a sectarian name, and never expected to do so. 3. Whether they were connected in any way with any homeopathic medical journal. To this they had answered, "No." 4. Whether they were willing to be governed by the laws of the Medical Society of the County of New York. They had answered, "Yes." The Comitia therefore recommended them for membership.

Dr. A. Jacobi said that Dr. Ellsworth Eliot, who was unable to be present, had requested him to offer a resolution to the effect that a diploma from a homeopathic medical college did not entitle the holder to membership in the society.

The resolution was laid on the table.

The two candidates were then unanimously elected to membership.

[So-o-o.]

PROF. HENRY CAMPBELL, OF AUGUSTA, GA.—The medical profession throughout the United States is to be congratulated upon the successful operation recently performed upon the eyes of the President of the American Medical Association. For some time past the many friends of Dr. Campbell have been painfully aware of his failing sight. At the last meeting of the National Medical Association, at Washington, D. C., in May last, this blindness had progressed so rapidly that he got about with much difficulty. Surgeons in Boston and New York pronounced the case one of cataract, to be remedied only by operation. In September Prof. Henry Campbell came to Baltimore. As the cataract had now matured, he placed himself in the hands of Dr. Chisholm for surgical treatment. Under chloroform a very successful cataract extraction was performed. The treatment was painless throughout, convalescence seemingly commencing with the operation itself. When the eye became strong enough to stand the light it was found that perfect vision had been regained, so that fine print could be readily read. In three weeks from the day of operation Prof. Campbell felt himself so completely restored to perfect vision that he left Baltimore for New York to attend a meeting of the Medical Council, having in charge preparations for the next meeting of the International Medical Congress, which will assemble in this country. We have since learned that Prof. Campbell has resumed the active and oner-

ous duties of professional life with his pristine vigor. The medical profession throughout the land will hail with great satisfaction the perfect results of this brilliant operation upon the eyes of their honored President. We in Baltimore are quite pleased that this restoration of sight should have been given by one of our own surgeons, especially as all the leading specialists of the great cities would have considered it a privilege to have been called upon to do this good work for this distinguished member of our profession.—*Maryland Medical Journal*.

TREATMENT OF COLDS.—A "cold" having been contracted, what is the best means of throwing it off? The answers to the question are legion, for they are many. In domestic practice hot, stimulating drinks have from time immemorial been held to be the best, and that they are very effectual does not admit of question. Full doses of quinine and Dover's powders have, probably, a larger number of advocates in the profession than obtains for any other means. For a number of years we have, however, relied quite exclusively on the treatment recommended by Dr. Dobell, of the Royal Hospital for Diseases of the Chest, London, and have come to regard it as the most effectual of any yet suggested: 1. Give 5 grains of carbonate of ammonia and 5 minims of liquor morphia (B.P.—morphia, gr. $\frac{1}{6}$) in an ounce of almond emulsion, every three hours. 2. At night give $\frac{3}{4}$ jss. of spts. mindererus in a tumbler of cold water, after the patient has got into bed and been covered with several extra blankets. Cold water should be drunk freely during the night when there is thirst. 3. In the morning the extra blankets should be removed, so as to allow the skin to cool down before getting up. 4. Let the patient get up as usual, and take his usual diet, but continue the ammonia and morphia mixture every four hours. 5. At bedtime the second night, give a compound colocynth pill. Usually about twelve doses of the mixture will be found sufficient, but should the catarrh show any disposition to return after leaving off the medicine for a day, another six doses may be taken and another pill at bedtime. The beauty of this treatment lies in the fact that it does not interfere with the patient's business, and does not expose him to fresh attacks of cold which are

liable to follow exposure to the outer air after a course of hot, stimulating, diaphoretic drinks.—*Medical Age*.

CREMATION.—Sir T. Spencer Wells once more urges the claims of cremation as a practical measure of sanitation. Public opinion is rapidly coming around to the common sense view in favor of this important hygienic reform, and broad religious sentiment is pronouncing in its favor. The City of London Commission of Sewers has shown a vigorous sentiment of approval of this wise practice. The Cremation Society of England, which has for its medical founders Sir Henry Thompson, Sir Spencer Wells, and Mr. H. Hart, possess a fully equipped crematorium, erected at Woking, which is ready for operation, when freed from obstacles interposed by prejudice.—*British Medical Journal*.

Selections.

AN ADDRESS ON CHOLERA AND ITS BACILLUS.

Delivered before the Imperial Health Board at Berlin, by

ROBERT KOCH, M. D.

[CONCLUDED.]

In the course of the discussion on Dr. Koch's paper on Cholera and its Bacillus, the author put forward question 10—"Can the infectious matter reach the body through other ways than the digestive canal?" The question was raised because Professor von Pettenkofer believes that the infectious element can enter the body by means of air through the lungs.

Prof. Virchow said that Pettenkofer held that the infection entered the body solely by the lungs.

Dr. Koch had pointed out that infection through the air was exceptional, and took place only at short distances. As a rule, cholera was not so communicated. Turning to the only exception in his experience, in Alexandria the sewers flowed into the new harbor and fouled the sea-water close to the strand. Dr. Koch observed that a portion of this impure water was constantly pulverized into spray by the surf, so that after standing on the beach there for five minutes he was obliged to wipe the pulverized water from his spectacles. Thus cholera dejecta, emptied on the strand and constantly pulverized there, could be com-

municated through the air to those who lived on the shore. In the neighborhood of the mouth of the sewers a number of cases of cholera occurred.

Professor Leyden also believed that under certain circumstances cholera could be transferred by the air, but only in the immediate vicinity of the patient. He had often observed that immediately after burying a person dead of cholera, one or more of those concerned in the burial had taken the disease. They might have taken the infection in another way, but the comparatively large numbers thus stricken pointed to the atmosphere in the immediate vicinity of the patient as the medium of contagion, which might even then just as well be received into the mouth, and get into the digestive, and not the respiratory tract.

Professor Skrzeczka suggested that the dust in the air in times of drouth might contain particles of recently dried dejecta from gutters which received the contents of water closets.

Dr. Eulenberg mentioned the case of a clergyman of Bromberg who had visited several cholera-patients without taking the infection, whilst his wife, who had nothing to do with any of the sick, took the cholera and died.

Dr. Koch, in answer to Professor Leyden, observed that it was striking if only the undertakers' men and attendants contracted the disease, because nurses and doctors who came into much closer contact with the patients, suffered much less than those who buried them.

Professor Leyden questioned the accuracy of this statement. A large number of nurses died at Danzig in the epidemic of 1866.

Dr. Koch replied that in cholera epidemics the nurses and physicians were not much more attacked than other people. They all kept clean, and it was only against dust that they could not protect themselves, but funeral-attendants exposed themselves to a special danger by entering the houses of the deceased, and generally eating or drinking something there, where they were exposed to other sources of contagion. Professor Hirsch had reported that in the epidemic of 1872 men had taken cholera after transporting corpses from rafts. This could not have been caused by pulverized infectious materials. Most probably the men partook of food when their hands had been polluted. If dust had been the cause of infection

there would have been a much larger number of immediate contagions.

Professor LEYDEN saw no difficulty in supposing that if a rapid evaporation took place, germs of infective matter could be suspended in the air, not necessarily in dust alone.

Dr. KOCH answered that all experience spoke against this. Without dessication of the infected fluid, or the formation of bubbles, the bacteria could not raise themselves from the fluid, which must first dry up; the solid matter must then be reduced to dust, and lastly transferred through the current of air. If the infectious matter could be kept in a dried state, direct contagion in the same ward would occur more frequently from the large quantities of cholera-dejecta which become dry in clothes or bedding, and get constantly into the air in the form of dust. The introduction of cholera by persons in good health is rare. In such a case infected food, etc., had probably been given by somebody to his relations at home, or the apparently healthy person had a light attack of cholera which escaped notice.

Professor LEYDEN mentioned the case of a girl who went to a house to make a shroud for a woman dead of the cholera; the girl remained in perfect health, while the girl's mother, who had no communication with any cholera-patient, became ill and died of cholera.

Dr. KOCH insisted that this was quite a different mode of introduction of cholera by persons in good health from what Pettenkoffer believed. According to him, the infective matter which sprang from the soil and was distributed through the air, adhered to a persons clothes and could be transmitted great distances. The example cited by Professor Leyden was quite different, and agreed more with Dr Koch's view. In this manner a healthy person could become the bearer of infectious matter, but this would occur but seldom, and the contagion could occur only at short distances. It was quite inadmissible to suppose that cholera could be brought in this manner by sea traffic.

Professor VIRCHOW asked Dr. Koch, if whilst this organism is essentially aerobian, the human intestine was an especially favorable place for its development?

Dr. KOCH answered that there must be free oxygen for disposal in the intestine, or such conditions must be present as afford the bacillus oxygen. The bacillus lived in large numbers in the intestine. If the air

was withdrawn from them outside the body they immediately ceased to grow. Hence the bacteria in the intestine must find oxygen in some way or other. In the intestine a great number of other bacteria were to be found, which also did not grow when deprived of air. *Oidium lactis*, which required oxygen for its development, was sometimes found in the intestine.

Professor VIRCHOW said that the other part of question 6, which referred to the soil is more important. It was conceivable that reproduction of the matter in man and also in the soil might both take place. As far as the soil was concerned, Dr. Koch's observations showed the possibility of cultivating the matter in damp earth.

Professor HIRSCH considered the question of immense importance in reference to pollution of the soil.

Dr. FRAENKEL fancied that nobody was present who strictly presented Pettenkoffer's theory. The possibility of reproduction of the cholera-germ in the soil is not excluded, but generally it was reproduced in the human intestine.

Professor VIRCHOW noted that Pettenkoffer did not claim merely the soil as the bearer of the infection but also the air, in so far as he denied that infective germs came from the soil into drinking-water. He insisted that they always came through the air. That had been discussed. On the other hand, the possibility that an increase of infective matter took place in the soil seems follow directly from the evidence Dr. Koch had brought forward.

Dr. Koch believed from what had been said, that an agreement would be reached some time or other on the various divergent opinions.

Professor HIRSCH denied this assertion. Professor Pettenkoffer attached no importance to the soil as far as it was a question of the real cholera-poison. He assumed that a certain something, y , developed in the soil, and came into connection with the cholera-poison, x , and that x only then became efficacious; but the development of y took place in a soil previously well soaked and afterwards becoming dry, owing to the sinking of the underground water and access to the air, a high temperature acting on it at the same time.

Professor VIRCHOW considered that no definite opinion could be just now given on this point.

Dr. WOLFHUGEL did not think it neces-

sary that any definite attitude should be taken.

Question 5 was then considered: "Is a direct transfer possible, or must the infectious matter pass through a kind of maturity or change of generation in the soil or anywhere else?"

Professor VIRCHOW considered there was no ground for admitting such a hypothesis at present,

Dr. KOCH observed that the question referred to other media besides the soil. A special process of maturation, even on the cholera-linen; had been asserted, because the linen does not infect in the perfectly fresh state. This assumption rested chiefly on the experiments of Thiersh. Dr. Koch believed linen to be infectious as soon as it was soiled. He knew of no example from which it could be concluded that a kind of maturation and change in the infectious matter was necessary.

Professor VIRCHOW said that as the chief results of Thiersch's experiments had fallen to the ground, namely that white mice contracted from a substance which was said to come from the putrefaction of cholera-dejecta (the basis of this supposition also disappeared. Besides, as we know of only one state of the bacillus which propagated itself regularly, and at most developed to a greater or less perfection, it would be wholly arbitrary to suppose a new intermediate condition.

Questions 2, 3, and 4 were taken together for discussion:—2. Is the infectious matter disseminated only through intercourse of human beings with each other? 3. What are the bearers of the infectious matter in foreign traffic—ships, goods, letters, people in good health, or people already infected? What are the bearers of the infection in ordinary traffic in places where cholera is prevailing—corpses of cholera patients, effects of such patients, linen, food, drinking- or household- waters the air or insects?

Dr. SKRZECZKA connected these three questions with a very important subject, namely, traffic in rags and old clothes. It seemed, from Dr. Koch's standpoint, to be not impossible that infection could be introduced by such traffic. The further development and capacity of the bacillus for multiplication appeared to be suppressed by drying within a certain and not very long space of time, but it was not yet clear what was to be understood by this dry state;

whether, namely, a moist, cool air were sufficient to bring about in the same manner the dryness necessary for multiplication as in warm, dry air; and what were the conditions for a sufficient removal of moisture, hence it seemed not impossible that old clothes and rags should be in conditions for long periods which facilitated the further vegetation of the bacillus, so that the fact of a certain time having elapsed since they were used, did not afford a certainty that the dry state had been reached, and would last long enough to destroy the capacity for multiplication. Dr. Koch had admitted the possibility of goods being so packed that they could retain the bacillus a long time in a state capable of propagation. From this it seemed that the question of the introduction of cholera by means of rags was as important as its introduction by means of linen or wearing apparel.

Professor VIRCHOW said the term "rags" was really not a technical idea the same as "dirt." Large portions of old clothes could become rags: and if the torn trousers or other rags of a man who had died of cholera were thrown among the rags, it would be the same as if his linen were thrown there.

Dr. KOCH said this never had occurred beyond the case mentioned that day, which seemed to be very questionable. The possibility of infection through rags had been discussed at the Congress on Cholera at Vienna and Constantinople, and nobody was able to cite an example of cholera having arisen through rags in paper-mills or elsewhere. The treatment and manipulation of rags in commerce probably destroyed the infectious matter of cholera. But so much importance should not be attached to this question. What would be the use of suppressing the rag-trade, when we were obliged to run the real risk of allowing persons suffering from cholera to pass our frontiers.

Dr. WOLFUGEL said that worthless rags were often thrown into dust-bins in Berlin, and although no case of cholera had been traced back to this cause, he thought it deserved attention.

Professor VIRCHOW said that rags had often been mentioned as the cause, but the point had never been proved as in the case of linen.

Dr. EULENBERG remarked that in the rag trade the rags passed through several hands because they were sorted according to their value and exposed to the air before being

packed into bales; and that damp rags were not packed because moisture would injure the rest.

To this Dr. WOLFUGEL said he had collected some information concerning the rag-trade during the time of the epidemic. Several thousand hands were employed on the Russo German frontier with the sorting of rags. England received a large quantity of rags from Königsberg, because the merchants there were known to sort their rags carefully.

On the question of the treatment of letters, Professor VIRCHOW, supporting the opinion of the Bavarian chief medical councillor, said: "If the free passage of men be allowed, letters ought also be allowed to pass. Does anybody object?" No objection being raised, Prof. Virchow then turned to the subject of drinking-water and water used for household purposes. He asked if there were not some limit at which the bacillus was no longer able to live in water, or if it could exist in water an indefinite period, according to Dr. Koch's view.

Dr. KOCH said that comma-bacilli do not multiply in pure water, but perish in a few days.

The four remaining questions for discussion being Nos. 11, 12, 13, and 15, Professor VIRCHOW proposed that they should be suspended, as they presented too much for present discussion.

Professor LEYDEN said a person was often attacked by cholera in different epidemics, but seldom more than once during the same epidemic.

Professor HIRSCH asked Dr. Koch if he could state anything in regard to the incubation of cholera.

Dr. KOCH replied that the period of incubation was not long. All cases of apparently long incubation admit of another explanation.

Professor HIRSCH, in his cholera-expedition in 1873 took pains to collect such cases which would afford as certain a conclusion as possible on the subject of incubation, in which cases the individual had spent a few hours at a place infected with cholera and then had gone to a place where no cholera had as yet occurred, to become there the first person attacked by the disease. In this way Professor Hirsch had been able to prove in most cases that the incubation was from three to four days or less, but never five days.

Dr. SZCZKA said the question of short-

est duration of incubation was important for etiology.

Professor Hirsch knew of no case of incubation of shorter duration than two days.

Dr EULENBERG said that hitherto the duration of incubation had been taken as a fortnight for the quarantine of sea vessels, and this had recently been reduced to ten days.

Professor VON BERGMANN quoted Professor Virchow's words at the opening of the discussion, stating that as we formerly directed our efforts against an unknown *agens*, but always against an *ens*, so we now ought to advise practitioners to adopt the bacillus-theory for the present during cholera epidemics.

Dr. KOCH said that such a course would be doing what should be avoided; it would be giving a definite opinion on the whole conception of the etiology of cholera. Each one should form his opinion from what had been discussed at this meeting.

Professor VIRCHOW, in closing the discussion, said that its resumption for the purpose of discussing or receiving fresh information on any of the above questions would depend on the course of events. He expressed the thanks of all present to the Imperial Board of Health for permitting the meeting in that place, and especially to Dr. Koch for having so richly provided them with fresh knowledge.

Translations.

THE PATHOLOGY OF FIBRINOUS PNEUMONIA.—Prof. F. Koranyi, of Pesth, and his assistant, V. Babes, make a contribution on this subject to the *P. M. Chirurg. Presse*, which is in substance as follows: Of eleven persons living in the same room, three were taken ill in the latter part of January; one, an aged woman, died on the fourth day of the disease with symptoms of pneumonia, without consulting a physician. The other two were strong Italian laborers. Of these, one manifested the signs of a typical croupous pneumonia, which, after a regular crisis, on the seventh day, terminated in recovery. The other likewise exhibited the symptoms of pneumonia, but owing to the extreme prostration, the delirium, the dry tongue, the icterus, and great meteorism, the enlargement of the spleen and albuminuria, the case resembled the so-called bilious or asthenic form

of the disease. Death occurred on the eighth day.

The autopsy revealed a typical croupous pneumonia located in the lower lobe of the left lung, and in the stage of gray hepatization, with extensive blood-extravasation. Associated with this was also a pleuritic exudation, a well-defined peripneumonia of the upper lobe, and an inflammatory infiltration of the mediastinum. In addition to all these lesions, the characteristic diplococci of Friedlander were discovered. These, however, were of a paler color and smaller size in the lower pneumonic lobe than they were in the upper, affected with peripneumonia. It was further demonstrated by experimentation on animals that the latter were much more virulent than the former, a fact that may possibly have been due to the advanced stage of the process. Inoculation with these microorganisms proved rapidly fatal, not only to mice and guinea-pigs, but also to rabbits, producing a severe inflammation of the serous membranes.

Peripneumonia (*i.e.*, inflammation of the sub-pleural and inter-lobular connective tissue) has been found to be, in animals, a well defined, self-limited infectious disease; while the cases observed in the human subject have been for the most part secondary to pleurisy, pyemia, etc. Its association with croupous pneumonia has not yet been described. Since in both affections the same diplococcus was found, Koranyi holds that the association of these two diseases is not at all impossible, and that both may yet be found due to the same infection, simply being located in different pulmonary tissues. This, he thinks, may again depend upon a difference in the lymphatic circulation of animals, the two affections being simply different degrees of the same disease. By this explanation, however, we can hardly assume for the two laborers a precisely similar infection.—*Deutsche Med. Zeitung*, Sept. 11, '84. J.M.F.

DES SYNOVITES FONGUEUSES ARTICULAIRES ET TENDINEUSES, par M. Chandellux in the *Journal de Med. et de Chirurgie*, Paris.

The author examined the question, with the help of recent methods, so as to show the progress of science in this direction.

The fungosities existing in the joints affected by *tumor albus* were considered for

a long time as inflammatory productions. But, it having been acknowledged that *tumor albus* affected tuberculous individuals, it was suspected to be a tuberculosis of the bones. Koster in Germany and Cornil in France proved the presence of granulations in the fungosities of the joints, and to-day it is believed that fungosities without the presence of tubercle are very rare. In these fungosities the tubercle is found in every stage of transformation, as infiltrated granulations or caseous masses simulating suppuration.

The microscopic observation showed the presence of tubercle in the fungosities and the physiological experiments of the inoculations proved the tubercle of these fungosities possess the same pathological properties as that of the lungs. Furthermore, it was remarked, that the general infection produces the local alteration of the joint like the other localizations of tuberculosis.

The results of the experiments are as follows:

The inoculation of the fungosities of the joints in animals caused tuberculosis. The inoculation of the tuberculous matter in the joint of an animal produced a fungous synovitis and afterward a general tuberculosis.

At last, and much more remarkable, by injecting tuberculous matter in the wind-pipe of animals they get tuberculosis, and any injury in the joints is the cause of a fungous synovitis.

These observations throw much light on the pathogenesis of tumor albus, showing that traumatic causes have much to do in their development.

There are many patients attacked by the white tumor who believe that their trouble began after an injury of the joint, and many surgeons think that those affections depend entirely on a constitutional condition of the organism existing before the action of the trauma, which produced its evil effect because the joint was already diseased.

The experiments above referred to show that in an individual affected by tuberculosis any trauma incapable of producing such a lesion in a healthy individual may cause the formation of a fungous tuberculosis arthritis, which sometimes is the first manifestation of tuberculosis.

To-day we can settle the nature of the disease, as the parasite of tuberculosis was found in the fungosities of the joints and

the same was cultivated in the opportune fluids, and the inoculation of the fluids showed the energy of the parasite. This parasite was found more seldom in the fungosities and more often in the other tuberculous tissues. Koch found it twice in four cases of arthritis and Cornil only once in three cases, which would show that the virulence of the fungous tissues is not so bad as that of other tissues affected by tuberculosis.

In the way of treatment the author prefers the interstitial injections into the fungosities of a solution of iodoform, 1.5; iodoform being a powerful destroyer of the micro-organism. But the most certain means is the scraping of the fungosities and the direct application of the iodoform. But such partial operations are not of great benefit and must be confined to a few cases where the extremities of the bones are known to contain tubercles.

Resection is also proper in those cases where we can hope that the disease remains limited to that portion of bone. Henceforth amputation begins to be recognized again in the therapeutics of these diseases which can entirely remove the tuberculous matter and prevent the generalization of the tuberculosis in the system. Amputation was at first too much employed and now is about forgotten in these cases, but the modern observations define its justifiable application.

Finally, these observations show the necessity of the medical treatment of the individuals affected by tuberculous local lesions. The surgical treatment must be accompanied and followed by medical means. It is not proper to despair of every case of tuberculosis, even when the disease is very severe, still there is some hope. It is possible that one day we will be able to distinguish in what cases of tuberculosis no surgical treatment is applicable.

A. R.

THE DIAGNOSTIC VALUE OF THE BACILLUS TUBERCULOSIS.—Dr. Georg Zahn contributes to the *Wurtemberg Med. Kor. Blat.* the following report:

In his investigations of 33 cases of phthisis pulmonalis he but twice failed to find the bacilli in the sputum. Of the other 31, the sputum contained in 3 cases a very large number; in 14 a large number; in 6 a few, and in 3 only a single bacillus. In two cases the discovery of the bacilli gave

strong corroborative evidence of the correctness of the diagnosis. In one case which during life had been diagnosticated phthisis and the bacilli found, the autopsy revealed not the slightest trace of tubercular disease. Further, he found the bacillus present in a case of locomotor ataxia, and in two cases of heart disease which had no pulmonary disease, but who had lain in the same room with tubercular agents. Since the most rigid search failed to reveal any interchange of utensils or any lack of cleanliness, it must be assumed that the transmission occurred by means of the air. As a result of these observations, Dr. Zahn cautions against placing too much importance on the mere presence of bacilli in the sputum. — *Deutsche. Med. Zeit.*, Sept. 11, '84.

J. M. F.

THE land lately purchased by the College of Physicians and Surgeons, New York, comprises the western portion of the block bounded by Ninth and Tenth Avenues and Fifty-ninth and Sixtieth Streets, directly opposite the grounds of the Roosevelt Hospital, which include the whole of the block below. It is understood that the new college building will cover a space measuring two hundred by three hundred feet.

Bibliography.

THE LOCK-JAW OF INFANTS. (1)

This little book is written in something of the same spirit as Uncle Toby manifested when, at the death-bed of his newly-made friend, he exclaimed, "He shall not die——!" A little more than thirty-five years ago, the late Dr. J. Marion Sims offered as an explanation of the cause of trismus nascentium, the opinion that it was due to a depression of the occipital and parietal bones, producing undue pressure and irritation of the posterior lobes of the brain. Little attention has been paid to the suggestion, although it has been brought before the profession several times. It is in the hope of arousing some interest in it that the present monograph is produced. From the language of the author,

1 (Trismus Nascentium), or Nine Day Fits, Crying, Spasms, etc.; Its History, Cause, Prevention and Cure. By J. F. Hartigan, M.D., Washington, D. C., Member of the American Medical Association, etc. New York: Berningham & Co., 1884. Price, 75 cents.

we are permitted to infer that his discovery of the lesion in question was independent of the statement of Dr. Sims.

After reviewing the literature of the subject, the author narrates nearly fifty cases in his own experience. These cases can be called nothing more than a record of mortality, for out of the forty-nine cases reported only five recovered. It would appear to be of little consequence, then, so far as treatment is concerned, whether depression of bones be the true cause or not. There is one point in the statistics that strikes us rather forcibly, and that is the fact that the five infants that recovered were aged respectively, eight, two, three, five months and twelve days. The most prominent symptoms in these cases were connected with the alimentary canal, such as we so often see as a result of improper feeding. Nearly all the fatal cases, on the other hand, were but a few days old. We fear the author in his enthusiasm has neglected to fortify his diagnosis in a few of the successful cases, so that we who are at a distance have an opportunity to doubt. The treatment consists in the replacement of the bones and keeping the infant in a proper position to maintain the reduction. In one case we are told that the bones were adjusted "with a snap," in a child eight months old. If there is anything of truth in the theory, the suggestion that the child should lie only on the side may be of prophylactic value.

J. M. F.

PRACTICAL MANUAL OF DISEASES OF WOMEN AND UTERINE THERAPEUTICS. (2)

This is a good sized hand-book or manual of some four hundred pages for students and practitioners of medicine. It is not intended to take the place of such treatises as Barnes, Thomas, Schroeder, or Hart and Barbour, and it certainly does not. But, considering its size and claims, it covers a great deal of ground and does it in a clear and very concise way. It is eminently practical in its teachings. Most of the illustrations are very good.

We doubt the usefulness of this class of books, but this is certainly one of the best manuals it has been our fortune to look over.

C. D. P.

2 A Manual for Students and Practitioners. By M. MacNaughton Jones, M.D., etc., Examiner in Obstetrics, Royal University of Ireland. New York: D. Appleton & Co.

Original Articles.

OPERATION FOR CATARACT.

By G. W. VAN PELT, M.D., Mansfield, Indiana.

Mrs. Le C., widow, aged 30 years, the mother of three healthy children, good health, no diabetes, never had a miscarriage, but dates the beginning of the cataractous process from her extraordinary expulsive efforts during labor about five years ago (1879). The left eye then "began to grow weak," to use her own expression, and in three years (1882), was practically blind. The right eye began the same process about 1881, and at the time of the operation on the left eye, May 31, 1884, the cataract in that eye was almost mature, but nearly, if not quite, at a standstill. Examined ophthalmoscopically the red reflex could not be seen, but still there was sufficient vision to see a chair placed between her and an open door. Immediately after the extraction of the left cataract, while yet in utter darkness, both eyes being bandaged, she said her right eye felt very "weak," and four weeks later this cataract also seemed perfectly mature. The operation on the left eye had, by sympathy or otherwise ripened the cataract in the other eye which had made no progress for many months.

Preparatory treatment: Twenty grains of bromide of potassium the evening previous to operation, which ensured a good night's rest; castor oil the next morning, which opened the bowels well, and atropia, which dilated the pupil.

I had satisfied myself that the cataract was of the cortical or soft variety, that the field of vision was good and tension normal.

With the aid of Dr. L. J. Wollen, of Vevay, Ind., and Dr. S. Culbertson, of this place, I operated on the left eye on May 31, '84. In finding point of puncture I chose to follow the directions given by Dr. David DeBeck of Cincinnati, in his lectures last winter, as easier of execution than those of the books. Dr. DeBeck said: "Imagine, 1st, a horizontal diameter of the cornea; 2d, a tangent parallel to this at top of cornea; 3d, a perpendicular at each end of said diameter; then the points of puncture and counter puncture will lie in this perpendicular, half way between these parallels." During such an operation abso-

lute measurements are impracticable, while comparative ones are not. So precise an eye as is able to tell the difference between $\frac{1}{2}$ line and $\frac{1}{3}$ line, that is, $\frac{1}{4}$ of an inch, is very rare. But it is comparatively easy to tell where two lines would meet, one being midway between the top and center of the cornea, and the other a perpendicular tangent at one extremity of the horizontal diameter.

Having persuaded the patient to forego anæsthesia, she was secured in a reclining chair. I dipped all instruments into absolute alcohol, seated myself at her left side, applied the speculum (Noyes'), and entered the cataract knife at a point about one millimetre external to the sclero-corneal junction, on the temporal side, in a horizontal line, passing three millimetres from the upper margin of the cornea, directing it first toward the exact center of the pupil, the plane of the knife *not* parallel to the plane of the iris, the back of the knife being closer to the iris than its edge, and edge parallel to the iridial plane. (In Dr. Bull's edition of "Wells on the Eye," 1883, page 461, there is, if I may be permitted to say so, a slight misstatement in regard to the position of the knife. He says: "Its edge should *not* be kept quite parallel to the iris," meaning, I think, the *plane* instead of the *edge*.) Having traversed about one-third of the corneal diameter, the point of the knife was caused to describe the arc of a circle, with the puncture for its center, the plane of the knife still forming a slight angle with that of the iris, until a point on the nasal side was reached corresponding to point of puncture, where the counter-puncture was made. Without altering the direction of the plane of the knife it was thrust on almost its entire length, then retracted until the section was about one-half completed, when the aqueous escaped, not a drop having been lost previously.

At this juncture an ugly accident occurred, the lower lid escaped from the speculum. However, in spite of the patient's writhing, I succeeded in finishing the section properly and readjusted the speculum. The iris did not prolapse, indeed I had to make two attempts to grasp it with the iris forceps before I succeeded. I did not notice at the moment of the escape of the aqueous whether the pupil contracted *immediately*. At all events, the atropine mydriasis was lost by the time I had entered the forceps the second time. I made

a large iridectomy, and immediately the anterior chamber filled with blood, the occurrence of which embarrassed me not a little, totally obscuring the next step of the operation. The capsule was lacerated, the cystitome being guided more by faith than by sight. Upon attempting now to deliver the lens, I found my section too small, it presented well, but no amount of justifiable force would extrude it. I then enlarged the wound. (I did this on the temporal side, it being more convenient to me than the nasal side, but I believe I would now, under similar conditions, enlarge the counter puncture, for the reason that the inner aspect of the puncture was made as large as the outer in the very first step of the operation by directing the point of the knife toward the center of the pupil, but the inner aspect of the counter puncture can not be made so, because the line of incision is made necessarily from the point of puncture, thus making the total opening of the wound less by the whole thickness of the sclero-corneal junction 1·2 millimetres, than it would be were the inner aspect of the counterpuncture made as large as the outer. Thus, by properly enlarging the section on the nasal side by making it perpendicular to the cornea instead of oblique, the total gain would be 1·2 millimetres, without enlarging the external wound.)

The removal of the lens, debris and blood was now effected, the speculum taken away, a bandage applied, with pledgets soaked in a solution of boracic acid, and patient put to bed. While the lens was in the act of escaping, the patient cried out: "Oh mother, I can see."

The rest of the history may be told in a few words. She never complained of a particle of pain. There was no swelling save the tumefaction of the lids, caused by the speculum, which disappeared in a few days. *Not a drop of pus*, although an examination about the fourth day showed there was some conjunctivitis, and the washed-out appearance of the iris in a few weeks showed there had been some iritis. This seems confirmatory of Prof. W. W. Seely's assertion that there may be inflammation, but there should *never* be any pus. A weak solution of atropine, 0·5 per cent., was used every morning, and a 4 per cent. solution of boracic acid every evening, but I attribute much of the good results to the previous cleansing of the instruments in the absolute alcohol.

The patient kept her bed about a week. Dr. Culbertson gave her a pair of No. 5 convex glasses for temporary use in about four weeks. At the end of eight weeks she needed No. 3.

NOTES.

a. I have mentioned above that the patient attributed her blindness to strain during parturition. The authorities at my command do not mention strain as one of the possible causes of cataract. But it is an universal belief among the laity (and Herbert Spencer says all universal beliefs have a "soul of truth") that severe pulling will cause a horse to go blind. What is the rationale?

b. Why is it not possible to lacerate the capsule and bring the lens forward into the anterior chamber *before section of the cornea*, while the atropine still holds the iris out of the way? After section the pupil contracts and either the lens must be forced through or the iris cut, either of which is an evil. Dislocation of the lens is possible by accident, why not by intention? We would thus obtain that great desideratum, a central, circular, moveable pupil, avoiding most of the dangers of the operations now in vogue.

NOTES ON THE METEOROLOGICAL MEDICINE OF CINCINNATI.

BY THOMAS C. MINOR, M. D.,
Cincinnati, O.

SPRING DISEASES—CONTINUED.

Zymotic diseases, especially those of the exanthematous varieties, prevail to a greater or lesser extent in spring, and during periods of epidemics their presence is more than well evidenced by the mortality tables. Small-pox, measles, and scarlet fever are frequently present as sub-epidemics. Diphtheria, whooping cough, remittent and intermittent fevers, together with typhoid, are not uncommon; although in this latitude typhoid is less fatal in spring than at any other season of the year. Pleurisy, bronchitis, pneumonia, and consumption are notable causes of death,—March and April especially being two of the most fatal months in this latitude for phthisical patients. A diminished death-rate from meningitis is observable in spring as compared with winter and summer, and the season is unusually free from diarrheal disorders.

All the exanthematous diseases and the

TABLE IV.	Week ending	Deaths from all causes.	Mean weekly value of Barometer.	Mean weekly value of Thermometer.	Rain in inches. — clear.	Principal cause of death.	Class.	Order.
1874	June 6	95	29.90	76°	.72	Scarlet fever	Zymotic	Miasmatic
	" 13	114	29.90	78°	.53	do.	do.	do.
	" 20	85	30.00	74°	1.26	Consumption	Constitutional	Tubercular
	" 27	126	30.00	82°	.88	do.	do.	do.
1875	June 5	80	30.00	73°	.76	Consumption	Constitutional	Tubercular
	" 12	88	29.97	69°	.44	do.	do.	do.
	" 19	74	29.95	68°	1.81	do.	do.	do.
	" 26	103	29.89	78°	1.19	Diarrhoeal dis.	Zymotic	Miasmatic
1876	June 3	101	29.81	75°	1.72	Small pox	Zymotic	Miasmatic
	" 10	93	29.96	73°	1.28	do.	do.	do.
	" 17	135	29.81	74°	1.24	Diarrhoeal dis.	do.	do.
	" 24	159	28.89	71°	1.86	do.	do.	do.
1877	June 2	72	30.03	71°	.03	Consumption	Constitutional	Tubercular
	" 9	58	29.70	69°	2.41	do.	do.	do.
	" 16	80	29.96	71°	.77	do.	do.	do.
	" 23	104	29.92	76°	.56	Diarrhoeal dis.	Zymotic	Miasmatic
	" 30	125	29.86	77°	1.47	do.	do.	do.
1878	June 1	70	29.93	67°	.02	Consumption	Constitutional	Tubercular
	" 8	86	29.84	68°	.69	do.	do.	do.
	" 15	83	29.89	66°	1.14	Pneumonia	Local	Respiratory
	" 22	77	29.81	67°	2.04	Consumption	Constitutional	Tubercular
	" 29	83	29.98	75°	.16	Diarrhoeal dis.	Zymotic	Miasmatic
1879	June 7	84	30.03	68°	.50	Scarlet fever	Zymotic	Miasmatic
	" 14	95	29.91	75°	1.80	Convulsions	Local	Nervous
	" 21	104	30.04	71°	.22	do.	do.	do.
	" 28	125	29.98	78°	2.68	Diarrhoeal dis.	Zymotic	Miasmatic
1880	June 5	133	30.04	68°	.63	Diarrhoeal dis.	Zymotic	Miasmatic
	" 12	131	29.97	77°	1.44	do.	do.	do.
	" 19	145	30.03	73°	4.04	do.	do.	do.
	" 26	109	30.00	79°	3.20	do.	do.	do.
1881	June 4	99	29.80	72°	.96	Consumption	Constitutional	Tubercular
	" 11	92	29.93	69°	1.95	do.	do.	do.
	" 18	94	30.00	78°	2.77	do.	do.	do.
	" 25	156	29.99	72°	1.10	Diarrhoeal dis.	Zymotic	Miasmatic
1882	June 3	148	29.86	62°	3.05	Small pox	Zymotic	Miasmatic
	" 10	160	29.96	68°	.14	do.	do.	do.
	" 17	137	29.91	73°	2.69	do.	do.	do.
	" 24	134	30.00	74°	.08	do.	do.	do.
1883	June 2	94	30.01	64°	2.02	Consumption	Constitutional	Tubercular
	" 9	105	29.98	76°	.41	do.	do.	do.
	" 16	86	29.96	72°	1.38	do.	do.	do.
	" 23	104	29.95	77°	.40	do.	do.	do.
	" 30	108	29.90	71°	1.42	do.	do.	do.

TABLE V.	Week ending	Deaths from all causes.	Mean weekly value of Barometer.	Mean weekly value of Thermom.	Rain, inches. — clear.	Principal cause of death.	Class.	Order.
1874	July 4	125	29.94	81°	—	Diarrhoeal dis.	Zymotic	Miasmatic
	" 11	169	29.93	82°	1.87	do.	do.	do.
	" 18	113	30.09	78°	.06	do.	do.	do.
	" 25	113	30.03	79°	1.04	do.	do.	do.
1875	July 3	115	29.96	75°	.62	Diarrhoeal dis.	Zymotic	Miasmatic
	" 10	150	30.02	77°	2.13	do.	do.	do.
	" 17	116	29.79	79°	.84	do.	do.	do.
	" 24	135	29.90	75°	2.15	do.	do.	do.
	" 31	91	29.96	76°	3.75	do.	do.	do.
1876	July 1	110	29.87	78°	.33	Diarrhoeal dis.	Zymotic	Miasmatic
	" 8	109	29.94	80°	3.91	do.	do.	do.
	" 15	129	29.93	81°	2.61	do.	do.	do.
	" 22	171	29.97	82°	.03	do.	do.	do.
	" 29	117	29.94	74°	.26	do.	do.	do.
1877	July 7	133	29.92	79°	.61	Diarrhoeal dis.	Zymotic	Miasmatic
	" 14	94	29.90	77°	—	do.	do.	do.
	" 21	110	29.82	73°	2.19	do.	do.	do.
	" 28	95	29.98	78°	1.45	do.	do.	do.
1878	July 6	97	29.93	80°	.96	Diarrhoeal dis.	Zymotic	Miasmatic
	" 13	112	29.95	83°	1.79	do.	do.	do.
	" 20	165	29.86	84°	—	do.	do.	do.
	" 27	114	29.86	77°	.72	do.	do.	do.
1879	July 5	146	30.06	79°	.14	Consumption	Constitutional	Tubercular
	" 12	152	29.89	83°	1.61	Diarrhoeal dis.	Zymotic	Miasmatic
	" 19	190	29.97	81°	—	Convulsions	Local	Nervous
	" 26	119	29.89	81°	1.02	Consumption	Constitutional	Tubercular
1880	July 3	105	29.95	77°	1.87	Diarrhoeal dis.	Zymotic	Miasmatic
	" 10	120	29.99	79°	.15	Consumption	Constitutional	Tubercular
	" 17	154	29.95	82°	.16	Diarrhoeal dis.	Zymotic	Miasmatic
	" 24	83	30.04	71°	1.59	do.	do.	do.
	" 31	88	30.06	76°	.22	do.	do.	do.
1881	July 2	152	30.12	78°	1.07	Diarrhoeal dis.	Zymotic	Miasmatic
	" 9	206	30.06	85°	1.07	do.	do.	do.
	" 16	583	30.02	88°	1.74	Sunstroke	Local	Nervous
	" 23	127	29.89	76°	1.23	do.	do.	do.
	" 30	121	30.00	75°	.15	Diarrhoeal dis.	Zymotic	Miasmatic
1882	July 1	168	29.97	80°	1.33	Diarrhoeal dis.	Zymotic	Miasmatic
	" 8	155	29.99	69°	1.02	do.	do.	do.
	" 15	165	30.03	74°	.63	do.	do.	do.
	" 22	144	30.10	74°	.17	do.	do.	do.
	" 29	151	30.10	77°	.06	do.	do.	do.
1883	July 7	145	30.04	81°	.91	Diarrhoeal dis.	Zymotic	Miasmatic
	" 14	112	29.94	73°	.70	do.	do.	do.
	" 21	120	30.09	76°	.58	do.	do.	do.
	" 28	126	30.17	79°	.02	do.	do.	do.

TABLE VI.	Week ending	Deaths from all causes.	Mean weekly value of Barometer.	Mean weekly value of Thermom.	Rain, inches. — clear.	Principal cause of death.	Class.	Order.
1873	Aug. 16	129	29.97	75°	1.45	Diarrhoeal dis.	Zymotic	Miasmatic
	" 23	105	30.05	75°	—	do.	do.	do.
	" 30	93	30.03	76°	1.41	do.	do.	do.
1874	Aug. 1	115	29.94	75°	.52	Diarrhoeal dis.	Zymotic	Miasmatic
	" 8	110	30.01	75°	.34	do.	do.	do.
	" 15	144	30.00	81°	.57	do.	do.	do.
	" 22	113	30.07	80°	.04	do.	do.	do.
	" 29	90	29.99	73°	.01	do.	do.	do.
1875	Aug. 7	87	29.86	72°	2.22	Diarrhoeal dis.	Zymotic	Miasmatic
	" 14	77	29.84	72°	.82	Consumption	Constitutional	Tubercular
	" 21	76	29.88	70°	—	do.	do.	do.
	" 28	98	30.11	70°	—	do.	do.	do.
1876	Aug. 5	109	29.94	76°	2.06	Diarrhoeal dis.	Zymotic	Miasmatic
	" 12	85	30.03	77°	1.04	Consumption	Constitutional	Tubercular
	" 19	123	29.87	80°	2.30	do.	do.	do.
	" 26	104	29.99	74°	.81	Diarrhoeal dis.	Zymotic	Miasmatic
1877	Aug. 4	97	29.89	79°	—	Diarrhoeal dis.	Zymotic	Miasmatic
	" 11	90	29.82	76°	.15	do.	do.	do.
	" 18	92	29.81	71°	1.61	do.	do.	do.
	" 25	100	29.87	74°	.50	do.	do.	do.
1878	Aug. 3	120	29.85	80°	.72	Diarrhoeal dis.	Zymotic	Miasmatic
	" 10	130	29.80	80°	.65	do.	do.	do.
	" 17	84	30.22	78°	—	do.	do.	do.
	" 24	72	29.87	76°	2.09	do.	do.	do.
	" 31	92	29.87	73°	1.23	Consumption	Constitutional	Tubercular
1879	Aug. 2	113	30.00	80°	.58	Consumption	Constitutional	Tubercular
	" 9	105	29.94	76°	3.99	Diarrhoeal dis.	Zymotic	Miasmatic
	" 16	106	29.98	70°	3.24	do.	do.	do.
	" 23	94	29.96	73°	1.04	Consumption	Constitutional	Tubercular
	" 30	75	30.00	70°	2.87	do.	do.	do.
1880	Aug. 7	87	30.10	72°	2.19	Consumption	Constitutional	Tubercular
	" 14	119	30.03	76°	—	Diarrhoeal dis.	Zymotic	Miasmatic
	" 21	108	29.99	77°	.49	do.	do.	do.
	" 28	109	30.05	80°	.60	do.	do.	do.
1881	Aug. 6	142	30.07	82°	.13	Diarrhoeal dis.	Zymotic	Miasmatic
	" 13	137	29.70	81°	.12	do.	do.	do.
	" 20	114	30.01	74°	.12	Consumption	Constitutional	Tubercular
	" 27	119	30.10	77°	—	Diarrhoeal dis.	Zymotic	Miasmatic
1882	Aug. 5	142	29.97	77°	2.16	Diarrhoeal dis.	Zymotic	Miasmatic
	" 12	137	30.01	71°	.18	do.	do.	do.
	" 19	119	30.04	73°	.21	do.	do.	do.
	" 26	121	30.07	75°	2.10	Consumption	Constitutional	Tubercular
1883	Aug. 4	117	30.07	71°	.81	Consumption	Constitutional	Tubercular
	" 11	85	30.05	71°	.59	do.	do.	do.
	" 18	92	30.01	73°	—	Diarrhoeal dis.	Zymotic	Miasmatic
	" 25	116	30.03	76°	.19	do.	do.	do.

respiratory disorders of spring are accompanied by fevers of more or less intensity; these fevers, in many instances, evidencing malarial complications, and are benefitted by quinine, this drug being especially useful at the commencement of convalescence. Attacks of pleurisy, pneumonia, and bronchitis, in this latitude in the spring, often follow sub-acute rheumatism, the patient complaining of pains in various parts of the body, and a feeling of chilliness. The urine in such cases will always be found decidedly acid in its reaction. The skin is usually dry, there may be a slight cough, acceleration of pulse, sense of oppression in the chest, sneezing, some discharge of mucus from the nose, and occasionally a mild angina. When such symptoms are accompanied by the pains of what appears to be sub-acute rheumatism, the physician must needs be on his guard unless he wishes to see his client suffering from one of the disorders of the respiratory tract.

As regards the most marked tendency of disease at this season, it is towards those forms affecting especially the mucous membranes of the respiratory system,—and the skin.

SUMMER DISEASES.

The following tables will exhibit the principal causes of mortality of the hottest season of the year. The ranges of temperature for different years affording a more than interesting study. One curious prediction can be made in regard to the appearance of cholera infantum in Cincinnati, *i. e.*: that the mortality from this cause will commence to be marked *during the last week of June*; this is as unfailing a prognostication as that the appearance of swallows ushers in the spring. Physicians in this latitude may safely advise their clients to remove infant children to the rural districts before the latter portion of June if they desire to avoid a risk usual to infantile life in this city.

[TO BE CONTINUED.]

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Correspondence.

A HALF HOUR AT RUSH.

NOTES FROM A LECTURE BY PROF. DELASKIE MILLER.

Editor Lancet and Clinic:

Calling at Rush Medical College on Saturday, Nov. 1st, and finding that Prof. Miller was upon the intricate subject of conception and gestation, we could not resist the temptation to take brief notes of what was said; as the teachings put forth to this class of about 400 students, takes importance from the number taught.

Referring to the duration of pregnancy, Prof. Miller took the position that the period was an uncertain one; for even in those cases where but one sexual connection had occurred, we could not assume that we had an exact data, because it does not follow that fecundation takes place at the time of copulation.

Insemination means something, fecundation another, and conception still another. Quite an interval may elapse after the sexual act, before the ovule is fecundated, and a further time is required before the ovum becomes attached to the system of the mother, which implies conception. It is now generally taught that fecundation usually takes place in the fallopian tubes, or at the ovary. Some deny that it ever takes place in the uterus. Prof. Miller stated that he had heretofore taught that it may take place in the uterus, and is still inclined to think that it may.

Fecundation is most likely to take place at about the menstrual period. But is there any time during the interval of menstruation when fecundation is impossible? There is a prevalent notion in the community that there is, and some high authorities have taught that from ten days after the cessation of one period till four days before the next, this immunity did exist. Observation and experience, however, disprove the assumption. The explanation is due, doubtless to the fact that spermatozoa may retain their vitality for several days after insemination, or that the ovule does not disintegrate immediately after it escapes from the graafian follicle, or again; that the sexual orgasm may cause an early rupture of the tunics of the graafian follicle, and as ovulation is a constant function of the ovary, it is not difficult to understand how fecundation and conception may take

place at any time during the intervals of menstruation.

The duration of pregnancy is not a fixed and invariable period of time. It is usually 280 days, but may exceed this by many days. Meigs believed that even 420 days did not violate chastity. Matthew Duncan requires that in what is supposed to be a prolonged gestation, the fœtus should be of large size, proportionate to the extra time assumed for the gestation. As there is no absolute standard of weight and measurement of the new-born child, the size of the child cannot settle the mooted question. To estimate the probable time when parturition will occur, we obtain the date of the cessation of the last menstrual period, reckon three months back and add seven days. Thus, suppose menstruation ceased to-day, Nov. 1st, we would have August 1st; add seven days and we have the 7th of August next as the probable time of labor.

THE PERSISTENT VOMITING OF PREGNANCY.

As a few moments remained to him, Prof. Miller stated he would occupy the time by a brief reference to the subject of vomiting in pregnancy. It is assumed in a recent work, that of the pathology of persistent vomiting in pregnancy we know nothing. Is this true? We certainly understand the sympathies which exist between the reproductive organs and distant organs of the system; as the kidneys; stomach; mammary glands, etc., and we have an explanation of these in the intimate connections between these distant organs, which is effected by the nervous system, both organic and spinal. The remarkable excitement developed in the reproductive system by pregnancy, is, through these nervous lines, transmitted directly to distant organs, and deranges their functions. Moreover, we are not to forget that the quality of the blood is changed. That a state of hyperinosis exists. That the blood contains an unusual amount of excrementitious matter, which the emunctories of the mother fail to eliminate. Hence there should be no surprise that abnormal secretions accumulate in the stomach, producing an intensely acid; I might say acrid condition; so decidedly so as to be almost caustic in its nature; may we not suppose quite irritating enough to produce a pathological condition, sufficient in degree to account for the obstinate vomiting and extreme depression we now and

then meet with. The indications would seem to be to remove these irritating secretions, allay the excitability of the nervous system, and sustain the rapidly failing strength of the patient.

The time of Prof. Miller having expired, the further elucidation of the subject was deferred.

Rush Medical College has generally been accredited with having classes made up of young men of the highest promise, and it is only simple justice to say, that the young men in the seats on this, our second visit at the institution, give evidence that common report may have been quite correct.

DR. G. SPRAGUE, CHICAGO.

Society Reports.

ACADEMY OF MEDICINE.

Meeting of October 13, 1884.

W. H. WENNING, M.D., G. A. FACKLER, M.D.,
Pres't in the Chair. Secretary.

General and Local Treatment of Inflammation.

Dr. WHITTAKER introduced the subject by saying that its range was so wide that it was difficult to make a concise report.

Our views vary, as was seen, as to the nature of inflammation and as much in regard to its treatment as a whole. The speaker reviewed the various methods of treatment employed in former times, which were summed up under the head of antiphlogistics. Inflammation being supposed to be due to the accumulation of peccant matter, physicians were opposed to cinchona because it had a tendency to lock up the bad humors in the body. This it accomplished by reducing the fever. The old method was to eliminate the humors by the emunctories. Purgation and sweating was the treatment in accord with ancient pathology.

After the days of antiphlogesis came the days of antipyresis. The nature of inflammation was still studied only in its effects, but instead of the pain, heat, redness and swelling as local processes, all attention was directed to the fever, and fever was a combustion like inflammation, and must be subdued in order to reduce the inflammation. The best antipyretic remedy was soon found to be cold. Cold is best utilized in cold water baths, and cold baths which had been used and forgotten in the last century, were now revived and studied scien-

tifically. Cold was also used locally in the form of ice, and neither of them address the cause of inflammation; they have no effect on the diseased blood-vessels, but their value as heat-withdrawing agents and preventatives of the damages caused by high temperature remains. Liebermeister has minutely investigated the various methods of application of cold water, and how many degrees are necessary to reduce fever. He shows that a more decided effect is obtained by full baths than by local applications, and by short baths at shorter intervals, than by longer baths. A cold bath, 40° to 60° , full length five to ten minutes, reduces the temperature two to four degrees. The cold bath is to be repeated whenever the temperature of the body reaches 103° . Sometimes a dozen baths are taken in twenty-four hours. The cold bath is immediate in its effect, and its only contra-indication is internal hemorrhages.

Quinia was introduced on the same theory as the cold baths. If given as an antipyretic, the dose must be a large one. Less than twenty grains will not produce an antipyretic effect. Cinchonism may be produced by large doses, but it is transient. The best results are obtained when it is given in the evening. Quinia reduces the temperature one or two degrees. It exercises its maximum effect in from five to eight hours.

Salicylic acid is the drug next most valued. It should be administered in combination with soda, and in large doses, at least 3ss. A large dose given in portions at intervals of a half hour to an hour will have a more permanent influence than when given in smaller quantities at longer intervals. Its advantage over quinia is its more rapid action, but its effect is not so permanent. A weak heart is a contra-indication to the salicylates.

Next in importance is digitalis, the method of whose action is wholly upon the heart in checking the general circulation. Veratrum, tartar emetic and aconite act in the same way, but with the danger of producing collapse. Alcohol is an antipyretic of great value without these dangers.

We have now arrived at the antiseptic treatment of inflammation. Studies have been made to show that the antipyretic power of various agents is in direct proportion to their antiseptic properties. The influence of bichloride of mercury may be attributed to the liberation of chlorine in the blood; that

of iodide of potash and bromide of potash may be attributed to the liberation of iodine and bromine.

If it be true that inflammation is a mycosis, it is easy to understand how antipyretics take rank according to their antimycotic properties. They must be used so as not to produce destruction of tissues. We know that many micro-organisms resist destruction more than tissues. It is also evident that the majority of agents used for their antimycotic properties do not destroy but prevent the reproduction of the micro-organisms. If inflammation is a mycosis, we may sum up the entire treatment of it as an antimycosis. The speaker discusses this subject from the standpoint of internal medicine. Everything depends upon what we mean by inflammation. Our successful treatment of it will depend upon our ability to reach and remove its cause. If the cause have ceased to operate, we can only address the effects.

Dr. NICKLES thought that a line should be drawn between the treatment of inflammation and that of fever. Inflammatory affections are not always attended by fever. Indeed, some acute intense inflammations of very limited extent are non-febrile. On the other hand, a considerable number of febrile diseases are not connected with inflammation. It is indeed true that acute extensive inflammations are always febrile, but even in these diseases we should clearly distinguish between the treatment of the inflammation and that of the fever. It is not likely that we exert any striking influence upon the inflammation by subduing one of the general symptoms, the high temperature. If a high fever continue many days, it may become necessary to use antipyretics in order to save life or to prevent great damage to the tissues, but in most inflammatory affections the attending fever, even when of short duration, does not require the use of powerful antipyretics.

If we assume that all inflammations are mycoses, then of course we must seek antimycotic remedies. But while some inflammations have been proved to be mycoses, many more seem in nowise dependent on the presence of micro-organisms. When in consequence of mechanical irritation the skin has become broken, micro-organisms may gain access to the tissues and produce those changes of the vascular walls which underlie the inflammatory process. But should the integument remain intact and the

tissues beneath have suffered severely from the injury, inflammation always takes place, although of a mild type, notwithstanding that micro-organisms have not gained access to the inflamed tissue.

In the general treatment of inflammation the principal question is, what effect can be exerted upon an inflamed area or organ by acting upon the general circulation? Doubtless absolute rest of the body, which is found so beneficial and so necessary in all severe inflammations, is useful by moderating the blood supply to the inflamed area. As far as known no medicinal agent, given internally, can restore the inflamed blood-vessels to their normal state. If the skin or a mucous membrane be affected, we may greatly ameliorate the inflammatory process and promote the restoration of the vessels by local measures.

Since we cannot by internal medication restore the altered vascular walls to their normal state, can we by limiting as much as possible the supply of blood to the inflamed part modify the course of the inflammation? We know that not only in the inflamed area but also in the adjacent parts the amount of blood is greatly increased, and that those vessels which are altered in their resistance become passively dilated and allow free exudation to take place, with all its deleterious results. It is therefore almost self-evident that we can greatly diminish the exudation, if we can reduce the hyperemia. Hence in the first stage of inflammation before notable exudation has occurred, the question is, can we so modify the general circulation as to produce a sufficient decrease of the local hyperemia. Formerly general blood-letting was resorted to for this purpose. It is doubtful whether it can accomplish it. Although general depletion, when not carried to great excess, may not seriously damage the blood or greatly diminish the prospect of ultimate recovery, yet it probably never renders the inflamed area anemic sufficiently long to be of any service. It has been held by good observers that the hyperemia may be diminished and exudation much checked by medicines which slow the heart's action and reduce the blood-pressure, and aconite, veratrum viride, digitalis, and quinine in large doses have been especially recommended. All of these medicines in sufficient doses will doubtless diminish the blood supply to the inflamed area, and generally also diminish the attendant fever, so far as

it is manifested by high temperature. Whatever good they can do, will be exerted in the first stage before exudation has taken place to a serious extent. In many cases their utility is not very evident. It is perhaps impossible in mycotic inflammations to diminish markedly the local hyperemia by weakening the heart and thus depressing the general circulation. They are certainly of no use in any case of inflammation if given in such doses as do not notably affect the heart's action.

Can we produce any effect by diminishing the quantity of fluid in the body? This may be accomplished by a dry diet, by withholding fluid, and by the use of cathartics, diuretics, and diaphoretics. In some inflammations, especially those of mucous membranes, these measures seem to be useful, but more frequently they do not notably modify the course of severe inflammations. After exudation has taken place they are often more useful to hasten absorption.

DR. SEELY remarked that Ringer teaches that he had noticed decided effects upon inflammation of the throat and tonsils by the administration of aconite. Speaker thinks he has seen its beneficial influence in inflammatory conditions of the ear.

DR. NICKLES said that the general and local treatment of inflammation cannot well be considered separately, as in most cases both must be adopted simultaneously.

Inflammation, as a rule, is a self-limited pathological condition. If it continues for a long time, becomes chronic, causes interfering with the nutrition of the vessels are still in operation. If the cause of an inflammation be removed, the morbid process usually rapidly subsides. Hence the first indication in the treatment is, to remove the cause. Thus, the removal of a cinder from the eye, a splinter from the finger, or an accumulated mass of pus, is followed by rapid subsidence of all the inflammatory phenomena. In many inflammations we do not know the cause, and in many more, though we know the cause, we are unable to remove it. The latter is the case especially in infectious diseases, as tuberculosis, epidemic cholera, etc., the germs of which enter the body unheralded and remain often for days and weeks before manifesting themselves in the production of morbid states. In some, however, we are able to remove the cause or at least greatly to modify it, as in acute rheumatism by

salicylate of sodium, in syphilis by mercury and iodine, in diphtheria by the use of inhalations of carbolic acid. It is considered as almost demonstrated that iodide of potassium is decomposed in the tissues, and that nascent iodine is liberated, and acts directly upon the cause of the disease. Lately the theory has been advanced that mercury, as protochloride and bichloride, is simply a conveyer of nascent chlorine.

The second indication is to reduce the inflammatory congestion. In many inflammations this may be accomplished by keeping the inflamed part at absolute rest, and elevating it. As in health so in disease, a part or organ at rest receives a minimum supply of blood. Elevation of the inflamed part greatly promotes the flow of venous blood from it, while at the same time it diminishes the arterial supply. Thus in case of inflammation of the hand or a finger, a vertical position of the upper extremity maintained for several days, will much ameliorate and sometimes completely arrest the morbid process. We know that certain forms of peritonitis may be effectually controlled by opium, which doubtless acts chiefly by completely arresting peristalsis. Some forms of acute bronchitis rapidly subside under the influence of morphia. Much may often be accomplished by promoting the flow of blood from the inflamed part by local depletion. Hence in the early stage of inflammation leeches and cupping are often serviceable. In many cases of acute inflammation cold is an effectual means of reducing the hyperemia. Producing contraction of the blood-vessels, it probably limits the supply of arterial blood and hastens the exit of venous blood. But cold can be effectual only when it directly influences the vessels involved. Hence especially in inflammations of accessible organs, as the extremities and the integuments. But in deep seated parts cold seems likely to increase, not diminish, the hyperemia.

After an inflammation has advanced to considerable exudation, little is to be gained by the means mentioned. Then the indication is to prevent injury to the infiltrated tissues. In many cases the exudation does little harm, as in some catarrhal inflammations, in which it readily reaches a free surface and is quickly removed. But in other cases the exudations may do great local injury, as in phlegmonous inflammations and those of serous membranes.

Hence various means are employed to hasten their removal. The surgeon opens abscesses, and makes deep incisions when the subcutaneous tissue is largely infiltrated. The physician aspirates in pleuritic exudations, and other similar cases. When the exudations are comparatively harmless or not abundant, various measures are applied locally and administered internally to promote absorption. Iodine and mercury are held to hasten absorption when applied as near as possible to the inflamed part, and internally various eliminative medicines are administered.

DR. CONNER said that in his estimation very few agents are of special value in the general treatment of inflammation. When we consider local remedies, we find their number great and their power great. We may divide them into three classes, viz: those which are employed during a period preceding the inflammation; those used in the earlier stages, and those which affect the products. There is no question that the treatment founded upon 15 years experience, which looks to cleanliness and destruction of micro-organisms has a controlling influence over the occurrence of an inflammation. Here more may be accomplished than at any other period. Here we notice the value of rest and removal of the irritant causes. Our object is to prevent the influence of the micro-organisms. When the inflammatory process has commenced, then our entire aim is to control the amount of blood to the affected area. Here are manifested the phenomena of an increased flow of blood to the part and an impediment to its outflow. For the relief of this condition we have a great range of remedies, both mechanical and chemical, among them local depletion, cutting off the supply of blood, compression of the larger vessels. The effect of cold, which acts simply by constricting the vessels. Heat, as a rule in the first stages, is not as beneficial as cold. We may also lessen the amount of blood by drawing it to another territory, by means of counter-irritation. We may lessen the ill effect of exudation by relieving the overlying tissue and letting out the effused material. We may also by direct pressure facilitate the outflow of blood and stimulate absorption. There is no question that local blood letting is of great use. A violent inflammation attending a wound of the hand is materially lessened by a sudden hemorrhage.

The beneficial effects of a local hemorrhage have frequently been noticed in visceral inflammation. Surgeons regard blood-letting with kindlier feelings than physicians. The mere drawing off of a quantity of blood is not as dangerous as by many supposed. How beneficial it is, no one knows. Local applications are scarcely of any service except when playing the part of counter-irritants. Tincture of iodine when applied to promote absorption is of absolutely no service, except when employed to such an extent as to produce as much irritation as a blister.

DR. E. G. ZINKE inquired whether opium acts beneficially only by the rest which it induces or by checking the secretions.

DR. NICKLES replied that you might likewise say that opium increases the secretions. Take, for instance, Dovers powder, which produces sweating; omit the opium from it, and no such effect is obtained. Given in moderate doses, opium does not diminish the secretion of the urine. Large doses will so affect the detrusor urinæ muscle as to cause difficult micturition, but will not directly diminish the secretion of urine, this, however, may be decreased greatly in consequence of profuse sweating. Nor is there any proof, that opium in moderate doses directly diminishes the intestinal secretions. The constipation results from arrested peristalsis.

When tincture of iodine is applied to the skin, a part of it is absorbed, especially before the skin is inflamed from prolonged application. The absorption of iodine is promoted and its irritating effects lessened by mixing it with an equal part of tincture of belladonna or tincture of galls.

Speaker thought that astringents have much control over superficial inflammations. They condense the tissues with which they come in contact, and indirectly contract the blood vessels. In experiments upon the mesentery of frogs a difference in the action of various astringents has been observed. Thus, tannic acid, even in very strong solution, always caused dilatation of the vessels, but lead and the nitrate of silver very strong contraction. But the effects of tannic acid may be otherwise when applied to inflamed tissue. That condensation of such parts occurs after the application of tannic acid as well as after nitrate of silver there can be no doubt. In various inflammations of the skin preparations of lead are highly recom-

mended by dermatologists, and all physicians who have frequently applied dilute solutions of nitrate of silver in chronic inflammations of the pharynx are of the opinion that it markedly affects the circulation of the part. Tannic acid has been found beneficial in many inflammations of the mucous membranes and the skin, and is almost universally employed to relieve the pain and heal the fissures of sore nipples. Sulphate of zinc and alum are in constant demand to overcome the inflammatory congestion and excessive discharges of gonorrhœa and leucorrhœa. All the astringents have antiseptic power, and to this property may be due in part their therapeutic value.

Speaker also remarked that he had not attributed beneficial influence to astringents when used in deep-seated inflammations. Only when placed in contact with the affected tissue can good be expected. He was well aware that nothing can be accomplished when the subcutaneous tissues are inflamed, except, possibly, with preparations of subacetate of lead, which surgeons the world over are using for sprains and bruises.

Speaker could not understand how blisters could be useful in drawing off fluid from the inflamed part. It is more rational to attribute their remedial value to nervous influence.

DR. WHITTAKER remarked that some inconsistency had been mentioned. In the first place we are told that inflammation is a change in the blood-vessels, and at the same time it is said that no remedy acts upon these vessels. This view is correct, but we can heal effects, in the relief of pain, for instance, even when we can not reach the cause.

As far as the speaker has observed, aconite does not possess the least value in reducing inflammation, nor does any other remedy, unless it be antiseptic. From time immemorial cold has been regarded as controlling inflammation, not by contracting blood-vessels, but by abstracting heat.

Venesection has been advocated by the surgeons. Then why are surgeons so extraordinarily careful to employ the Esmarch bandage and prevent the loss of blood? Speaker would certainly wait to be convinced that those cases progress more favorably in which most blood is lost. But if inflammation is a mycosis, of what use is the shedding of blood? Or upon any

theory, how will venesection act upon the diseased vessel walls?

Blisters draw off the diseased chemical products, and their action is more rationally explained in this way than by appeal to the vague process of counter irritation or derivation. It is still a question concerning the action of heat. Heat probably dilates the blood-vessels, allowing the quicker escape of blood and the collapse. The future treatment of inflammation is in the direction of antimycotic remedies.

EFFECT OF ALCOHOL ON LONGEVITY.—

The effect of alcohol upon longevity is most decidedly injurious. In intemperate persons the mortality between twenty-one and thirty years of age is five times as great, and between thirty and forty years of age four times as great, as that of the temperate. It becomes gradually less with advancing years, but at every age the abstainer has the advantage. A writer in Cassell's "Book of Health" for October has compiled the following in illustration of this:—

An intemperate person's chance of living is:	A temperate person's chance of living is:
At 20—15.6 years.	At 20—44.2 years.
" 30—13.8 "	" 30—36.5 "
" 40—11.6 "	" 40—28.8 "
" 50—10.8 "	" 50—21.25 "
" 60—8.9 "	" 60—15.285 "

—*Medical Press.*

"EDMOND DANTES," the Sequel to Alexander Dumas' great novel, "The Count of Monte-Cristo," is one of the most wonderful romances ever written, and an entire new and enlarged edition of it is in press and will be published in a few days by T. B. Peterson & Brothers, Philadelphia. Just at the point where "The Count of Monte-Cristo" ends, "Edmond Dantes" takes up the fascinating narrative and continues it with marvellous power and absorbing interest unto the end. Besides the hero, Haydee, Mercedes, Valentine de Villefort, Eugénie Danglars, Louise d'Armilly, Zuleika (Dantes' daughter), Benedetto, Lucien Debray, Albert de Morcerf, Beauchamp, Chateau-Renaud, Ali, Maximilian Morell, Giovanni Massetti and Esperance, (Dantes' son) figure prominently, while Lamartine, Ledru Rollin, Louis Blanc and hosts of other revolutionary leaders are also introduced. "EDMOND DANTES" will delight all who read it.

DR. J. S. JEWELL, Editor *Journal of Mental and Nervous Diseases*, and Prof. of Mental and Nervous Diseases, Chicago Medical College, Chicago, Ill., says: "I have used Battle & Co.'s preparation known as BROMIDIA, and believe it to be as reliable as it is represented to be by its proprietors. I have thus far been pleased with its effects."

THE CINCINNATI LANCET AND CLINIC

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Cincinnati, November 15, 1884.

The Week.

ACADEMY OF MEDICINE.—At the next meeting of the Academy, Monday evening, November 17, Dr. Stewart will read a paper on "Dystocia from Malignant Growths."

CINCINNATI MEDICAL SOCIETY.—At the next meeting, Tuesday evening, November 18, Dr. Eichberg will present a report of the pathological examination of "Two Cases of Typhoid Fever."

THE CHOLERA has broken out in Paris, after it was hoped that it had entirely disappeared from France. The death rate is rapidly increasing until now it is about 100 per day. It is late in the year for the disease there to assume a virulent form—yet it will probably continue until next spring when it may prove troublesome to manage. The direct relations between Paris and America renders it more than probable that we will not long escape. The authorities on our Atlantic coast are already trying to prevent the income of the disease.

About the same time with its appearance in Paris it also became manifest in Buenos Ayres, S.A. There it is the proper season

of the year for it to steadily grow. We can hardly hope to escape when thus threatened from two sources.

REPORT ON THE PREVENTION OF EPIDEMIC CHOLERA IN AMERICA.—Adopted by the American Public Health Association and the Conference of State Boards of Health.

To the Conference of State Boards of Health:

MR. PRESIDENT AND MEMBERS: Your committee, to whom was referred papers relating to the practical work required for the prevention of epidemic cholera in this country, respectfully report as follows:

Origin and Dissemination.—There are three essential factors to the prevalence of cholera in this country as an epidemic,—(1) the importation of the disease by means of ships more or less directly from its only place of origin in India; (2) local unsanitary conditions favorable to the reception and development of the disease; (3) persons sick with the disease in some of its stages, or things infected by such sick persons, to carry it from place to place. These three factors naturally suggest the methods of combating the disease, for which there is needed practical work,—international, national, and inter-state, state, and local. So far as relates to state and local boards of health, their organization and activities are greater than ever before; but it must be admitted, that after cholera has been introduced into a country, inland quarantines are not easily and successfully maintained, although efforts in this direction are then advisable.

In view of the threatened introduction of cholera into this country during the coming year, and the consequent immense waste of life and property values through derangements of commerce, trade, and productive industries, it is the sense of this conference that the general government should maintain such a national health service as shall, by rigid inspection at the port of embarkation, question the freedom from disease and infection of all persons and things from infected districts, and shall secure the surveillance of such persons and things while on shipboard, and, when necessary, detention at quarantine stations on this side for treatment and disinfection.

Official Inspection.—In view of the pres-

ent threatening aspect of Asiatic cholera, and the constant danger from other communicable diseases occurring at foreign ports having commercial relations with the United States, we urge upon congress to provide for the appointment and maintenance at all such foreign ports where cholera, yellow fever, plague, small-pox, or scarlet fever exists, or are liable to exist, of medical officers of health, the same being either accredited consuls, or attached to the consulates. The duties of these officers shall be to give notice, by telegraph when practicable, of the existence or appearance of any of the above named diseases to some constituted authority in this country; to give notice of the departure of any vessel known or suspected to be infected for any port in the United States; and, whenever requested by the master of any vessel about to load or leave for this country, to inspect thoroughly such vessel in all her parts, and also her cargo, her crew and passengers, to use such cleansing and disinfection as he may deem necessary, and to satisfy himself that all persons about to sail are free from dangerous communicable diseases, are not recently from infected places, and are properly protected from small-pox, giving to her commander a certificate of the inspection, and of all precautionary measures taken. And it shall be the duty of the central authority in this country promptly to transmit intelligence of the existence of the above mentioned diseases at foreign ports and places, and of the departure of dangerous vessels for the United States and Canada, to all state and local health authorities in the country which may be interested in the same.

We further recommend, in case of those foreign ports which have no consular agents of this country, or no telegraphic communication with this country, and which are liable to transmit pestilence through commercial intercourse, that one or more medical officers be chosen to visit such ports as often as may be deemed necessary by the central health authority in this country, so as to give trustworthy information of the health and sanitary condition of those places.

Canadian Health Alliance.—Inasmuch as the Dominion of Canada is equally interested with the United States in protecting itself and the United States from the importation of dangerous diseases, we sug-

gest that congress take such measures as will bring about concerted action with the Dominion and the British government, by which the consuls of this country or of England at foreign ports, shall examine and take such action as they may deem effective, and notify the authorities of such government as has authority over any port to which any ship may sail in the United States or Canada, in order that such government may be in a position to take effective measures against the importation of these diseases.

We are gratified that the authorities of the Dominion of Canada and of the Province of Ontario have taken active steps toward protecting the people of Canada, and indirectly those of the United States, by the adoption of extensive quarantine regulations. We feel, however, that with respect to those regulations regarding the landing of passengers from the mail steamers along the St. Lawrence, etc., further special regulations for the thorough disinfection of the baggage and effects of all passengers, cabin or steerage, as they come from infected ports or places, should be carried out in a manner similar to that recommended by the National Board of Health. Believing that the importation of cholera into this country has usually attended the presence of immigrants from infected countries, we therefore recommend that all such immigrants be prevented from landing at our ports until such time as the danger of the introduction of cholera by them shall have passed.

The inspection and quarantine service inaugurated by the National Board of Health, and set forth in the paper by Dr. Smart before this conference, but which system is now inoperative for want of an appropriation by congress, meets with our cordial approval. To enable these protective measures to be carried out, we recommend that congress be urged in the strongest terms to legislate on this subject at an early date in its coming session, and to appropriate such funds as may be needful. The expenses incident to the work which has to be performed at foreign ports, and the establishment of refuge stations at points on our own coast for the detention and treatment of infected vessels arriving from foreign ports, should undoubtedly be borne by the national government, and not by individual states or municipalities; for the benefits accruing therefrom are gen-

eral, and not restricted to localities, although some ports and cities on the coast may have a more immediate interest in the matter than others in the interior. It is probable, however, that this national protective work may not be sufficient.

Local Safeguards.—It will undoubtedly delay and lessen the chances of invasion, but it may not prevent invasion. The poison of the disease is subtle, and may effect an entrance into the country at some unguarded point. The funds necessary to the stamping out of the disease in a particular locality, and to the prevention of its spread to other localities, might in some instances be borne by the municipality or state affected; but should the disease occur in a locality which has failed or is unable to make provision for the occurrence, its spread to other cities and states would be imminent. The want of means at the infected points would be disastrous to many others. Congress has recognized the necessity for aid to state and local boards of health under similar conditions in the case of yellow fever. In 1879 the sum of \$500,000 was appropriated, and placed at the disposal of the National Board of Health; and the records show that of this sum \$160,000 was employed in combating the epidemic of that year. We therefore recommend that the influence of this conference be used with the view of having appropriated by the national legislature the sum of \$500,000, to be used, or as much thereof as may be needful, in case of a cholera invasion, in stamping out the disease from the infected localities, and in preventing its spread from state to state.

The removal of local unsanitary conditions favorable to the development of cholera is the special work of state and local boards of health. Much has been done already in some states, but much remains which should receive immediate attention. Where it can be done, state sanitary inspectors should be appointed to visit all towns and cities specially liable to the disease, to counsel with the local authorities as to the best methods of prevention. This work should be vigorously prosecuted before the disease reaches our shores.

Advice to Citizens.—The cause of cholera is contained in the discharges from persons affected by the disease, or in things infected by such discharges. Should the disease reach our shores, the first case, and

after this the first case which reaches any given community, should be strictly isolated. All infective material from these, and from any subsequent cases, should be destroyed in such manner as to stamp out the disease. Intelligent sanitary precautions beforehand, and scientific disinfection and treatment in the presence of the disease, should take the place of the necessary cruelties of a panic. In case any city or town is infected, the same principles of isolation should in general be applied to the city as to the infected individual. Intercourse with other cities and places should be under sanitary supervision, substantially as set forth in the rules and regulations of the National Board of Health respecting the inspection of travellers, disinfection of effects, vehicles, etc.

Health officers and inspectors appointed by state or provincial boards of health should, in addition to other sanitary work, see that the localities have set apart, erected, or planned to be so set apart or erected, structures which shall possess the sanitary requirements of an isolation hospital. But as regards all necessary work by local boards of health, most state and provincial boards of health have printed and issued documents which give ample instruction.

Your committee recommend that when this conference adjourns it be to meet in Washington, D. C., the second Wednesday in December next, and that the secretary of this conference be directed to invite the attendance at that time of the quarantine officers and the health officers of the principal cities in the United States and Canada; and that all delegates to that meeting be prepared to report the sanitary status of their state or locality, and what steps have been taken to improve the same, and to prevent the introduction of disease.

All of which is respectfully submitted.

Henry B. Baker, Secretary State Board of Health of Michigan.

H. P. Walcott, Chairman Health Department of Massachusetts.

S. S. Herrick, Secretary State Board of Health of Louisiana.

Peter H. Bryce, Secretary Provincial Board of Health, Ontario, Canada.

John H. Rauch, Secretary State Board of Health of Illinois.

COMMITTEE.

Adopted by the Conference of State Boards of Health at St. Louis, Mo., Oct. 14, 1884.

Erastus Brooks, President of the Conference of the State Boards of Health.

J. N. McCormack, Secretary of the Conference of State Boards of Health.

Adopted by the American Public Health Association at St. Louis, Mo., October 14, 1884.

Albert L. Gihon, President American Public Health Association.

Irving A. Watson, Secretary American Public Health Association.

Selections.

MEDICINE.

A NEW SYMPTOM AND A NEW THEORY OF LOCOMOTOR ATAXY.—There is no disease in the whole range of pathology which may commence in such extremely different ways as tabes spinalis, or locomotor ataxy; and it is undoubtedly this circumstance which accounts for the mistakes which have been, and are even now, so frequently made in the diagnosis of the earlier stages of that disease. We may, at the same time, have a number of patients under care who are all in the first stages of tabes, and who have yet hardly a single symptom in common. One of them may complain of loss of sexual power; another of hyperæsthesia in the back; a third of a troublesome form of indigestion, and a sensation of tightness round the stomach; a fourth of rheumatic or neuralgic pains; a fifth of failure of sight, and double vision; a sixth of a feeling of intense lassitude and exhaustion. This shows the great importance of being intimately acquainted with all the truly protean forms which this extraordinary malady may assume; an importance which is by no means only theoretical, but chiefly practical; for it is in the first stage of tabes that our therapeutical efforts are more likely to be crowned with success than at any later period in the evolution of the disease.

The principal new symptom which appears in the second stage of tabes, and which imparts an entirely new aspect to the malady, is that of ataxy. From this time forward, ataxy overshadows more or less all the other symptoms, with the result that patients in the second stage of tabes resemble one another a great deal more than in the first. The extreme differences which exist in the first or pre-axatic stage

begin now gradually to fade away, and the diagnosis is rendered proportionately easier.

I have been led, by long-continued observations on numerous cases of this disease which have happened to come under my care, to distinguish three different epochs or periods in the development of the ataxic stage of tabes. Such a distinction has not hitherto been made, but I believe it will be found to considerably facilitate the study and comprehension of the different aspects which this important symptom is apt to assume at different times in the progress of the disease. These periods I will characterize as follows.

1. The initial period, in which ataxy is so slightly marked, that a skilled exploration is required to discover the symptom.

2. The truly ataxic stage, in which the peculiar walk known as the ataxic gait is observed; and,

3. The period of muscular madness, in which even the typical ataxic gait is no longer possible, and muscular action, as far as it still exists, is in utter confusion.

The transition from the first to the second period of the disease is often so slow and gradual as to be almost imperceptible. Indeed, the muscular disorder may at first be so trifling, that the patient succeeds, by slight unconscious efforts, in obviating any actual inconvenience.

At this initial period of the second stage of tabes, a skilled objective exploration of the patient's condition is of paramount importance. The subjective symptoms of which he most complains are often misleading and comparatively insignificant; while the principal objective sign is often so concealed that only the specially trained observer is able to recognize and appreciate it. At this time, a patient may still be able to walk four or five miles at a time without much fatigue, and often scouts the idea that there is anything wrong with his walking powers. It is, therefore, necessary to make him go through a certain number of tests, some or all of which, when ataxy is present, will infallibly reveal it. The more important of them are, to watch the way in which the patient gets up from a chair or a couch; to make him stand with his feet close together, or on one leg, and with his eyes closed; to make him turn round quickly; and to go downstairs; when certain peculiarities will, in a general way, be noticed, which will betray the ataxy.

In addition to these tests, I will now de-

scribe another symptom, which I have not seen mentioned in any previous treatise on this disease, and which is, that the patient has a considerable difficulty in walking backwards. This faculty, which is chiefly practised and valued by courtiers, is nevertheless possessed by all ordinary mortals as long as they are in good health. For the tabid patient, however, it is mostly very difficult to walk backwards, at a time when he may have very little or no trouble in walking forward. His heels seem to catch the ground; he dare not move, for fear of falling; and, if he succeed at all in walking backwards, it is in a peculiarly halting and odd fashion, which at once attracts attention.

I noticed this symptom for the first time in the case of a gentleman, aged 24, who consulted me in February 1882, and who was, in consequence of certain official duties, obliged to walk backwards a good deal. For years this had been the easiest thing in the world for him; but during the last six months he had been mortified to find that he experienced considerable difficulty in accomplishing this feat. He told me that his health was otherwise excellent, with the exception of "rheumatic pains" in the limbs, to which he had been subject, off and on, during the last three years. I then examined him for the patellar tendon-reflex, and found it absent in both sides. In the further course of the interview, I elicited that the patient had had syphilis ten years ago; that he had a temporary attack of double vision three years ago; that there was, occasionally, incontinence of urine in the morning, and habitually a feeling of numbness in the soles of the feet. The patient was still able to walk exceedingly well in the daytime and on a level road, but had found difficulty in walking in the dark. He went satisfactorily through most of the other tests, showing that he was just in the commencement of the second stage of tabes. The walking backwards was, indeed, the most troublesome thing he had to contend with; and the contrast between the clumsy and awkward way in which he did this, and the apparent ease with which he walked forward, was indeed striking. When attempting to walk backwards, his heels seemed to become entangled in the carpet; he evidently did not know how to raise his feet properly from the ground, and on one occasion he would certainly have fallen unless I had supported

him. All the muscles of the thighs and legs seemed to become rigid the instant he attempted to walk backwards, while in walking forward he appeared to have no difficulty whatever in bending his knees to the proper degree.

Since then, I have made it a point to inquire about this symptom in patients suffering from tabes, and have found it present in the majority of cases. In an artist who is now under my care, this difficulty is particularly annoying, because it prevents him from taking a perspective of his pictures by walking backwards from his easel. In this case, there are no symptoms of tabes above the waist, so that the patient is able to paint as well as ever.

In difficult or doubtful cases, therefore, more especially in those at the very threshold of the ataxic stage of tabes, the symptom I have mentioned may put us on the proper track, and lead us to examine the patient who shows it for other symptoms of the malady. As tabes is still frequently confounded with gout, rheumatism, neuralgia, dyspepsia, idiopathic amaurosis, and other conditions, any addition to our means of diagnosis for that stage where the malady is not yet fully developed must be welcome, and this has been my reason for submitting it to your notice.

I now proceed to the second part of my paper, namely, to develop, as concisely as possible, the theory of the symptom of locomotor and static ataxy which I have, after careful consideration, been led to adopt.

Time prevents me from entering fully into the other theories which have been put forward, and I will therefore only mention that the two principal ones which count most adherents are one first propounded by Leydon, and another given by Erb.

Leydon's theory, which has also been advocated and developed by Pierret, is that all motor disturbance which takes place in tabes, is to be explained by the influence which sensation is known to have on motion, and by the intimate relation existing between the motor and sensory tracts. He points to the fact that that portion of the cord which suffers in tabes is notoriously concerned with sensation; that the latter function always suffers in tabes, and that the affection of sensibility is, if not absolutely, at least tolerably proportionate to the degree of ataxy which may be present.

Erb, on the other hand, considers that ataxy is a true motor symptom, and not in any way connected with or dependent upon the anæsthesia, which is generally present at the same time. He finds that frequently the degree of ataxy is by no means proportionate to the degree of anæsthesia which may be found, and that complete anæsthesia at least on one side of the body, has been seen without any ataxy at all. For these and other reasons, Erb assumes the existence in the cord of special co-ordinating centrifugal fibres, and thinks that these may be situated either in the central grey matter, or in a portion of the lateral columns, and that disease of these centrifugal fibres is followed by the appearance of locomotor ataxy.

It thus appears that the two principal representatives of German pathology of the present day differ *toto cælo* in their views of this subject, neither view seeming to explain to complete satisfaction the phenomena which are observed. A careful critical consideration of the different points in dispute seems, therefore, necessary in order to enable us to arrive at a satisfactory conclusion.

Let us, then, first, shortly consider the facts of normal and morbid anatomy and physiology which are at our disposal. We know that the posterior columns consist of two different systems; firstly, Burdach's columns, which have to be looked upon as short conducting paths; and secondly, Goll's columns, which system of fibres is made up of long conducting paths. Burdach's columns are direct continuations of posterior root-fibres, and connect the cord with peripheral parts, and thereby with external influences. They also send out numerous fibres, which proceed in various directions into the central grey matter, and which are evidently intended to connect the different segment of grey matter with each other, while others proceed upwards into the medulla oblongata, where they terminate. Goll's columns, on the other hand, are long conducting paths, which proceed from the central grey matter up to the medulla oblongata, and appear, from their anatomical peculiarities, intended to connect extra-medullary centres in the brain and cerebellum with physiologically identical fibre-systems at different levels of the cord.

It seems, *prima facie*, reasonable to assume that the various commissures which

establish a connection between extra- and intra-medullary centres, are intended to put all of these into mutual functional relations, and to form a path for producing a physiological consensus between them. Destruction of the anatomical commissures by disease would, therefore, naturally be expected to lead to a cessation of at least some degree of functional harmony.

Experimental physiology, on the other hand, has hitherto given somewhat ambiguous results. If it could be proved that the posterior columns contain centres of co-ordination, or if not centres, at least paths for the same, everything would be comfortably settled. Goltz, however, who has more particularly studied this question, has come to the conclusion that no centres for the co-ordination of complex movements exist, either in the posterior columns, nor in fact anywhere throughout the entire extent of the cord; but that such centres are to be found in the brain, more particularly in the corpora quadrigemina, the optic thalamus, and the cerebellum. Woroschiloff's experiments on the paths by which the co-ordinating impulses travel from the brain to the muscles, tend to show that, at least in the rabbit, these paths are situated in the middle third of the lateral columns of the cord, and do not touch the posterior columns at all.

The physiology of the posterior roots is somewhat better known than that of the posterior columns. If the posterior roots for one hind-leg be divided in a frog, the movements of that leg are seen to be out of harmony with the other, whether for jumping, swimming, or other modes of locomotion; and when such an animal is held between the fingers, the affected leg will not carry out the movements intended for the purpose of escaping, as is done by the non-operated leg. After experimental division of the whole of the posterior roots, a frog when put into water, is seen to be unable to swim, and to give himself up to ataxic movements.

It is important to notice that impressions which are solely furnished by the skin, are not indispensable for locomotion. Thus, Claude Bernard has shown that a frog whose skin was entirely removed, could still swim well; while destruction of the posterior roots at once abolished that power. This fact has a distinct bearing on those cases where ataxy has been observed, together with normal sensibility in the skin.

Our notions of the position of our limbs are likewise determined by the more deeply situated structures, such as muscles, ligaments, cartilages, and bones, which may lose their sensibility independently of that of the skin. It is true that in many cases of hysterical hemianæsthesia the movements of prehension, locomotion, etc., are reported to have been normal; but there are other cases in which unquestionably ataxy of movements existed under such circumstances. In a girl, aged 11, who was a short time ago under my care at the hospital, there was, on admission, hemianæsthesia of the entire left side of the body, which had apparently come on through hæmorrhage into the most posterior portions of the internal capsule at the time of birth. The affection had continued unaltered all her life, until she came under my care, but yielded nevertheless, to a single application of electricity. There had been no sign of paralysis at any time; and the girl was found, on examination, to be well able to carry out all simple movements with the anæsthetic limbs which I asked her to perform. At the same time there was decided ataxy in the left hand. The girl was able to play the piano with the right hand, but could not do so with the left; she had great difficulty in picking up a pin with her left hand, and in doing any useful complex actions; yet the muscular force, as tested with the dynamometer, was quite normal. The use of the hand for finer movements improved only gradually after sensibility had been established.

The anterior cornua of the central grey matter of the cord contain the centre of muscular power and tonicity, while the volitional impulses of motion originate in the central convolutions bordering the fissure of Rolando. Co-ordination of the action of the motor nerves and muscles is, however, not affected either in the Rolandic convolutions or in the grey centre of the cord; but in the central ganglia of the brain, namely, the corpus striatum and thalamus opticus, which communicate through the white internal capsule with the higher motor centres above, and the lower centres further down. The central ganglia have the special function of rendering movements which are intimately connected with sensations, and which are, in the first instance, only excited by conscious volitional effort, mechanical and automatic. Walking and other complex movements

have to be learnt early in life by countless conscious efforts on the parts of the hemispheres; and full attention is necessary in the beginning to enable us to carry out such movements in a proper manner. Eventually, however, less and less effort is required for executing such movements, which at last are performed without any attention to them on the part of the grey surface of the brain. A man who is in the habit of writing much, never thinks of the way in which he forms letters on the paper, over which his pen seems to fly quite mechanically. If each time we carry out complex movements, a special conscious effort were necessary, the time at our disposal would not suffice for a hundredth part of the work which we actually get through in life; and some forms of activity such as finished piano- and violin-playing, would be utterly impossible.

In order, however, that the central ganglia shall be able to thus minimize the work which has to be done in life, it is necessary they should constantly receive accurate information of the position of our limbs, and the nature of the obstacles with which the latter come in contact. We may be able to walk fast enough on a smooth level road without thinking about it; but if the pavement has been taken up, or if we have to walk across a newly ploughed field, or on the edge of a precipice, or on a narrow bridge or plank thrown across a stream, or in a crowded thoroughfare where hansom-cabs, omnibuses, perambulators, tricycles, and foot-passengers jostle each other, or in the dark on a staircase with which we are not acquainted, then a considerable amount of attention is required for overcoming obstacles in our way, and guiding ourselves along with safety. The mere impressions conveyed to the central ganglia by the posterior columns are then no longer sufficient; but the aid of the eyes, or, in the case of the dark staircase, of the hands and arms, is instinctively called in, in order to supplement the ordinary sensitive impressions by special information and manœuvring. We therefore, under those circumstances, behave like the ataxic does habitually, that is to say, we use our eyes as crutches, and manœuvre with our hands and arms to assist us; and even then we do not walk as well as we do on a smooth level road, where there are no impediments of any kind to overcome. The ataxic, therefore, is habitually in the condition in which we

are under such special circumstances only as I have just mentioned. The information habitually given to the central ganglia by the posterior columns, is not available for him, because those columns have ceased to exist, and the various groups of ganglionic cells can therefore no longer be combined for synergic, orderly, or purposive action. There is no longer any harmony between the muscles which act, and their antagonists which regulate the action; wrong groups of muscles are called into play, which impair the action instead of facilitating it; and there is therefore useless expenditure of nerve-force, causing fatigue.

The mode of production of locomotor ataxy thus appears satisfactorily explained; it only remains for us to account for the phenomena of static ataxy which are generally associated with the former in tabes.

The Cerebellum, which was once believed to be the seat of the reproductive faculty and desire, is now known to be the centre of equilibration of the body. Removal of this organ in an animal causes static ataxy; the animal cannot keep steady on its legs, but staggers about as if drunk. It is not paralyzed, and endeavors to carry out certain movements; but there is an utter want of precision, and even the most desperate efforts do not succeed in steadying it.

The behavior of animals deprived of their cerebellum, in fact, resembles, in the closest possible manner, that which takes place when the ataxic attempts to stand on one leg, or on both, with his eyes closed, etc. The erroneous information which the cerebellum receives from the diseased posterior columns may, however, be, to some extent, corrected by sight; and this accounts for the fact of standing being so much more difficult when the eyes are closed (Romberg's symptom), as well as for the other phenomena of static ataxy. Whether the paths through which information is given to the cerebellum are situated in Goll's columns, in which case the road would be somewhat more indirect, or in the direct cerebellar strands of the cord, which would carry information in a straight line to the cerebellum, we are at present not in a position to determine. We may, however, take it as an indisputable fact that locomotor ataxy is caused by an interruption of the paths between the posterior roots and the central ganglia of the brain,

through sclerosis of the posterior columns, and that static ataxy is, in its turn, brought about by an interruption of the paths between the posterior roots and the cerebellum, through sclerosis either of Goll's columns, or of the direct cerebellar strands.—Julius Althaus, M. D., in *The British Medical Journal*.

THE FUNCTIONAL INDEPENDENCE OF THE TWO CEREBRAL HEMISPHERES—ITS DEMONSTRATION BY EXPERIMENTAL HYPNOTISM.—In a recent Paris thesis M. Berillon gives the results of researches into the physiological, independent activity of function possessed by the cerebral hemispheres, and quotes in confirmation of this view evidence from anatomy, physiology, embryogeny, cerebral thermometry, comparative pathology, human pathology, mental pathology, psychological observation, and more directly from experimental hypnotism. By following this path of investigation, which Charcot and Dumontpallier have enlightened by so much patient and laborious investigation, M. Berillon believes that he has succeeded in demonstrating in a manner almost irrefutable the duality of the cerebrum and the functional independence of the two cerebral hemispheres.

From experiments upon patients at La Pitie it was shown that hypnotism (1) may be localized in one hemisphere, (2) may be exercised simultaneously in the two hemispheres, although in different degree. Without stopping to consider the means of inducing unilateral or bilateral cerebral hypnosis (further than to indicate that the condition was established by excluding one of the eyes by means of a bandage, and by thus acting upon only one retina or upon both in succession), we will give the conclusions contained in a *résumé* of the investigations of the author.

The work is in two parts.

"In the first part are grouped methodically a large number of facts taken from diverse branches of biological science, which appear susceptible of contributing proof to the theory of the functional independence of the two cerebral hemispheres. These facts are already known, and result equally from experiments and observation upon animals, and observation upon man

"In the second part of the work there appear, on the contrary, a great number of facts entirely new, which in this case

offer the special interest of being the result of experimentation directly upon man. These experiments are due to a mode of physiological investigation which is still seldom applied,—experimental hypnotism. By this it can be proved that in the human subject, by pursuing certain methods and at the will of the experimenter, we can

"(1) Suppress the psychic motor and sensory activity of one cerebral hemisphere (unilateral cerebral hypnotism)."

"(2) Give to each hemisphere a different degree of activity (bilateral cerebral hypnotism. of different degree for each side).

"(3) The two hemispheres having equal activity, to create for each of them and simultaneously the manifestations of hypnotism of different nature and character (bilateral cerebral hypnotism of similar degree, but with different manifestations for each side)."

Referring to the latter form, the author explains this curious condition as follows:

"That is to say, that the same individual can, in a hypnotic state, represent by each of his hemispheres a *distinct being* endowed with an individuality of its own. In such a condition, each hemisphere being complete by itself (although its action may be generally, from a stand-point of motility, limited to a single side of the body), and possessing within the limits of its attributes a special activity, one might say that man, whether from a psychic, sensory, or motor point of view, is really double; in short, that he possesses two organs of ideation,—two brains.

It would be impossible, the author says, in conclusion, to demonstrate experimentally upon man, in a more striking or precise manner, the cerebral duality and the functional independence of the two cerebral hemispheres, than he has done by this novel method of experimentation.—*La France Médicale*.

URINARY DISTURBANCES IN DISEASES OF THE NERVOUS SYSTEM.—The urinary organs are often the seat of various troubles during the course of nervous diseases. In an article on this subject (*Revue Médicale*, August 23, 1884) Dr. Charles Féré groups these phenomena under disturbances of secretion, excretion, and sensibility. A diminution in the quantity of urine, he says, is observed, especially in severe

forms of hysteria, when the ischuria may persist for several days. In such cases the vomited matters contain urea, a point of some value in the detection of malingers. Under the influence of strong emotions there may be a decrease in the amount of urine passed, as well as a relatively smaller proportion of urea and chlorides. Polyuria may be caused by undue sexual excitement, severe neuralgia, and especially the milder forms of hysteria. Polyuria may also follow the renal or vesicle crises of locomotor ataxia, and may exist as a permanent condition in affections of the mesocephalon. Albuminuria and glycosuria may accompany this condition, not only following lesions in the floor of the fourth ventricle, but also occurring in diseases of the mesocephalon. A slight degree of albuminuria is met with also in several convulsive neuroses, and more particularly in epilepsy. The author explains this occurrence by supposing submucous extravasations into the walls of the bladder, similar to the facial ecchymoses sometimes occasioned by an epileptic attack. If the urine contains a large quantity of albumen, it is merely coincidental and due to some other pathological condition. A transitory neuropathic glycosuria may follow physical or mental fatigue, sexual excesses, or depressing emotions. The increase of urea and the urates may be encountered in any of the affections with clonic or tonic convulsions. Retention may be due to spasm of the sphincter or paralysis of the walls of the bladder. Paralytic retention is common in apoplectic coma, traumatic affections of the cord, Pott's disease, acute or subacute myelitis. In certain cases of this kind the urine becomes rapidly alkaline, a fact explainable only on the theory of some trophic trouble. True incontinence occurs only in acute myelitis or in traumatic affections of the cord. Unconscious micturition is common in tabes dorsalis, general paralysis of the insane, and cerebral tumors located in the mesocephalon. The neurotic incontinence of childhood is often, the author asserts, a forerunner of epilepsy or ataxia. The various forms of irritable bladder may be met with in acute or chronic nervous conditions, in neurasthenia, spinal meningitis, or locomotor ataxia. The author does not agree with M. Geffier, who asserts that ataxia may be recognized by its urinary symptoms apart from any others, but he thinks that these troubles may often

be of purely nervous origin, and are most probably of this nature in the absence of any well-defined lesions of the urinary tract.—*Medical Record.*

TREATMENT OF SCIATICA BY CONGELATION.—Dr. Debove in considering the use of revulsives in sciatica and their beneficial action through the excitation of the extremities of the affected nerve, found that they were always restricted in the number of filaments introduced, as it would not be proper to apply a vesicant or cauterization from the hip to the calcaneum. It was therefore suggested to him to obtain this revulsion by means of congelation, for the parts could be congealed and resume the integrity of their functions. There was no objection to making the experiment, as the greatest evil would be the production of an eschar, an ordinary result in the common treatment by cauterization.

Accordingly he used chloride of methyl, which gives a temperature of 9.4 F., or by hastening its evaporation by a current of air, 4.7 F., and which is readily applied. His first patient had been treated at various times by cauterization with red hot iron without benefit, and had been confined to bed for a month. He applied the remedy over the painful surface from the hip to the external malleolus. A minute later the patient, who up to that period had been unable to put his foot to the ground, walked without limping and declared himself cured. He was as much astonished at the relief as Dr. Debove himself, who recalled the influence of the imagination in affecting cures of nervous disorders, particularly of sciatica, which has been cured even by cauterization of the lobule of the ear. But since the first case he has been able to repeat his experience sufficiently to warrant him in affirming that this method secures a speedy and constant cure. This case had been affected by the disease for three months, and has had no return of it. The other cases were either relieved at once or had slight relapses which were entirely relieved by the second use of the remedy.

These patients were affected with simple neuralgic sciatica of the rheumatismal form, existing from fifteen days to three months, and all suffered so severely as not to be able to put foot to the ground.

The apparatus used was the siphon of commerce, containing chloride of methyl, costing about \$1.20 a quart. To the ex-

tremity of the beak of the siphon headjusts a lead pipe provided with a small orifice, to allow of a proper direction of the jet, and to prevent waste. It is quickly applied over every painful portion from the sacrum to the malleolus, and the skin is immediately seen to congeal, turn white and become hard as stone. The patient complains of a painful burning sensation, but it is not so painful as cauterization. The skin rapidly reacts from congelation, which leaves more or less erythema—the most that was ever produced being a slight vesication, never an eschar. From that time on the patient is relieved and able to walk. A new application is made where the pain reappears at one or two points, the following day the relief continues, or perhaps there are a few painful points, which are again congealed and entirely relieved.—*Jour. Am. Med. Association.*

ETIOLOGY OF DIPHTHERIA.—The mortality from diphtheria is greatest in the fourth quarter of the year and between the ages of one and five years; more fatal among females than males, and in rural districts than in towns. Infection from a previous case is the only certainly known method of origin. The susceptibility to the disease varies greatly; often being greatest in particular families. It is infectious in its early stage before its characters are pronounced and also after apparent recovery. The infection also attaches itself to houses, and may be conveyed by persons living in an infected air who have not themselves suffered from the disease. There is reason to believe that it may be propagated from cases of sore throat of a mild character, such as are frequently prevalent at the time of diphtheritic outbreaks, but which do not themselves present the typical characters of the disease. The length of incubation is from two to five days. Diphtheria and scarlatina are often associated, and one has often appeared to have been contracted from the other. One is not protective against the other, nor against a second attack. It may occur as a complication of measles, enteric fever, and erysipelas. It can be imparted to the lower animals. Animals have diseases differing from diphtheria which may give rise to it in man. Whether it can be imparted by milk is still unsolved. The character of the soil does not appear to have any influence. Oertel and other German obser-

vers have found a micrococcus abundantly developed in the affected mucous membrane.—*Medical Times.*

PYRETHRUM FOR GLOBUS HYSTERICUS. Dr. Roth (*Centrab. f. Gyn.*) regards this symptom as due to a paræsthesia of the sympathetic. And as the pellitory root has been found useful in paralysis of the tongue and pharynx, the author was led to try it in globus. He gives from ten to twenty drops of the pyrethrum four times a day. He reports six cases in which he employed this remedy with satisfactory results.—*Practitioner.*

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SURGERY.

SUPPURATIVE HEPATITIS.—A Clinical Lecture delivered in the University of Vienna, by Prof. H. Nothnagel.

The patient, a female, æt. 36, complains of pains in the right hypochondriac region. For a year past she has noticed a swelling under the ribs on the right side, which was painless at the commencement. Fourteen days ago she experienced pains at the part, which remained absent for a few days, and then returned. Up to eight days ago the temperature was normal, then in the afternoon the patient had a slight chill, and, afterwards, a rise of temperature; she has since then had some pyrexia, the temperature being irregular and atypical, oscillating between 37.2° and 39.5° (99° and 103° F.). Such a fever, with occasional slight shiverings, reminds us of suppurative or septic processes. For the moment she is free from pyrexia. The most striking feature is the icteric coloring of the skin. You will often hear patients say that their liver must be affected because they look yellow. There are changes of color of the skin of this kind, however, that have nothing to do with the liver; a yellow coloration depending on the liver must show itself at once in the conjunctiva. We have here, in fact, a dark coloration of the sclerotic, and the patient tells us that for a long time she has had itching of the skin, which is also one of the symptoms of jaundice. The stomach shows nothing special. The patient has always had a good appetite, and she only loses it when the fever comes on. The motions are of a

thick liquid consistence, clay colored, but not completely ash-grey; there is some bile pigment. These stools alternate with normally colored ones. The pains most frequently come on of themselves, and affect the upper abdominal region. The abdomen is below the level of the thorax; in the epigastrium, we notice a prominence, mostly on the left side, which disappears under the margin of the ribs. The prominence descends on deep inspiration. The liver region is nowhere tender, not even on rather firm pressure. The resistance of the tumor, which may belong to the left lobe of the liver, is firmly elastic. Urine of a dirty brown color, reaction intensely acid, specific gravity 1019. It at present undoubtedly contains albumen, but did not do so earlier in the case; this is probably a febrile albuminuria. From Brücke's test we get a strong reaction of bile coloring matter. A similar dark brown color of the urine may come on after taking senna and rhubarb. If we wish to decide whether these things have been taken or not, we add liq. potassæ, in case they have, an intense cherry red color is produced. We ascertain then that there is pain in the epigastrium, and jaundice, then enlargement of the liver and a tumescence there. If one discovers an intumescence in the left lobe of the liver, smooth on the surface and gradually losing itself laterally, if there is fluctuation, and if with the foregoing there is fever, the first thought is that it should be an abscess of the liver. I take no note of the fact that abscesses of the liver are very rare with us, and that in the present case there is but little tenderness. Now the history comes in, that the patient had noticed a tumor in the spot for a year past, that it grew gradually and insidiously and that it has been quite painless. If a tumor has existed this length of time and has developed imperceptibly without any previous etiological factor to account for it, it cannot possibly be an abscess. As the patient has been quite well with it, has not lost flesh it must be a benignant tumor, and that can only be an echinococcus. Echinococcus may come in the spleen, in the kidneys, in the lungs, in the omentum, and other organs. Observation teaches us that this parasite comes to us only through dogs. It gradually forms a cyst enveloped in a capsule. If it is very large it forms a tumor, which is smooth, firmly elastic, so that it feels al-

most cartilaginous, the surface is uniform, not uneven, the tumor is not painful. There are many cases in which it is withdrawn from observation. The symptoms produced by it are simply physical. Spontaneous cure may take place after the cyst wall has sloughed. There must be something, some inflammatory process which destroys the echinococcus so that only the empty sac remains. In another series of cases, the echinococcus sac grows larger and larger, and becomes such an inconvenience that it has to be actively attacked. The echinococcus may rupture in almost any direction, into the gall-bladder, into the intestine, into the stomach, very rarely, however, through the diaphragm, into the pleural cavity, into the lungs, into the pericardium, etc. Does echinococcus of the liver cause jaundice? Jaundice is not one of the essential features, and it, like abscess of the liver, is extremely rarely the cause of icterus. In abscess of the liver, jaundice may come on under two conditions, (1) if it compresses a large gall-duct in the liver, and (2) if it occurs in the course of pyemia. Echinococcus may cause jaundice in a similar manner. In Jena I saw a case where a patient had an attack similar to cholelithiasis, and after the attack echinococcus cysts were found in the stools. Here rupture of the cyst had taken place, perforating a large gall-duct, so that the cysts were forced into the ductus choledochus, here they were retained like gall-stones, whereupon a reflex contraction took place, with violent pain, and they were emptied into the intestine. This is apparently a case of an echinococcus that has been a long time in the left lobe of the liver, and has set up secondary symptoms, which we assume to be hepatitis with resorptive fever. We possess nothing useful in the shape of medicines, operation only will be of service. In the present case we must treat the symptoms—both the icterus and the pyrexia. We shall apply an ice-bag in the neighborhood of the tumor. For the jaundice we have only to look after the evacuation of the bowels contents, and we shall give calomel 5 grs. or let her take the Ofner Bitterwater, or Carlsbad or Marienbad water.

The patient is again presented ten days later.

The liver has increased in size, it now reaches below the navel, and to the right

another intumescence has formed. The spleen is not distinctly palpable. The fever, which was present before, has increased, and rigors have made their appearance. The process, therefore, is advancing. With regard to the development of the tumor, we conclude that we have here an echinococcus, and that inflammation has been set up in or around the cyst. This inflammation must have progressed until an abscess has resulted. The question now arises, Do the local phenomena correspond to this assumption? The first swelling has remained the same, on the other hand the liver, *in toto*, has increased in size during the last ten days, plainly through hyperæmia, and, in addition to the above, a second intumescence has shown itself. The neighborhood of this new tumor was tender, especially yesterday. These things being so, we have before us a case of abscess, of suppurative hepatitis with diffuse swelling of the liver of acute origin. In chronic stable abscesses, the liver is not strikingly increased in volume. (An exploratory puncture was made with a trocar, and from the first tumor pus and liver cells were demonstrated, whilst from the second the pus was *bonum et laudabile*). Thus the second tumor is an abscess, and contains more pus than the original one. Such abscesses of the liver are very rare with us, the metastatic, pyemic abscesses of the liver are of greater relative frequency, they are observed in connection with suppuration in any parts of the body, often there is suppuration about the roots of the portal vein. It is thought that the latter must be very frequent, as decomposing material must be carried into the liver from thrombosed veins, and here give rise to abscesses; this is very rare, however. When you consider on the one side the great frequency of tuberculous and dysenteric intestinal ulcers, and on the other the great rarity of multiple abscesses in the liver in these cases, you will see how rarely the one condition gives rise to the other. Suppurations in the systemic veins pass into the right heart, cause emboli in the lungs, and from here the disintegrating material finds its way into the liver through the hepatic artery. These pyæmic abscesses are generally multiple, small, so that they can scarcely be made out during life, or at the most, they lead to slight swelling of the organ; the liver symptoms are completely

marked by severe general symptoms. Abscesses of the liver are much more common in the tropics, and there they have been associated with the frequent occurrence of desentery. From the mode of development, the case under notice is not one of this kind, for we cannot discover any suppuration in the system that could give rise to it, neither in the portal nor systemic systems of veins. The second kind are the simple large abscesses, because, as a rule, one abscess or, in exceptional cases only, two exists side by side. The following are the sources of origin of these (1) wounds: it is a matter of astonishment, however, how resistant and how little liable to suppuration the liver is; (2) wounds of the skull are said to lead to abscesses of the liver. Bärensprong has, however, arrived at the fact that abscesses of the liver after injuries to the skull are much more rare than after injuries to other parts of the body; (3) abscesses of the liver come on through partial suppuration of malignant neoplasms; (4) they have been observed as a sequela of worms (*lumbrici*), these two causes are but rarely observed, however; (5) more frequently they form around gall stones; and (6) through suppurating echinococcus cysts. How suppurating takes place with echinococci it is difficult to say, but the fact is there, that in and about them suppuration may take place. What about the fever? The abscess may (1) be latent a long time without fever, when it is encapsuled and no pyogenic substance is taken up from it into the circulation, it may run a latent course; (2) continued fever may arise; (3) irregular fever; and (4) a completely typical fever as with intermittent. In our case we must assume a suppurating echinococcus, not in the sac itself but around it. Must we suppose the case one of unilocular or multilocular echinococcus? The latter, which was described by Gresinger, differs in its clinical features totally from the former. In the case of the first we have to deal with a tumor which grows rather slowly in one spot, in which jaundice either never comes on at all or only exceptionally: there is no enlargement of the spleen, and the course run is fairly benignant. It is otherwise with the multilocular kind; it forms several tumors, and presents the appearance of a soft carcinoma or sarcoma, it is then rather nodular, it grows more rapidly, leads more quickly to dis-

tegration, with which we usually get jaundice and enlargement of the spleen. The conditions met with speak in favor of a unilocular echinococcus. The abscess of the liver causes general and local physical symptoms. I have already mentioned that it may run a completely latent course. The local symptoms are decisive for the diagnosis, they are occasionally absent, in spite of the presence of general symptoms when, for instance, the abscess lies in the posterior part or in the centre of the liver. The local symptoms are (1) enlargement of the whole liver from hyperæmia; (2) formation of a tumor with the usual characteristics of an abscess, fluctuating and with a smooth surface. If the tumor comes to the surface, œdema of the skin may come on at some circumscribed spot. Generally speaking we have no "back" action on the portal system, no enlargement of the spleen, no complication affecting the intestines. Pain in the region or the liver is an important symptom, it effects either the whole organ or only the part affected. If the capsule of the liver is put on the stretch by diffuse swelling of the organ, the patient experiences violent pains. Besides the pain another symptom is sometimes present. When a patient, who is suffering from irregular pyrexia, has pains in the right shoulder, we are justified in assuming that there is suppuration of the liver. Branches of the vagus and of the phrenic are distributed to the capsule of the liver. It has been lately shown that the latter contain sensory filaments; the phrenic has its principal origin in the fourth cervical nerve from which spring also the cutaneous nerves of the region of the shoulder and neck. It is assumed therefore that irritations in the liver are transmitted centrally, and radiate to the shoulder.

As regards prognosis, abscesses of the liver can heal spontaneously in but very rare cases, that is when they are very small, a fatal ending is much more frequent; this takes place with symptoms of pyæmia. Between these two extremes lie cases in which recovery takes place with the aid of treatment. In quite recent hepatitis, in cases in which injury has been inflicted, our predecessors consider venesection to be indispensable, we, however, do without it. But, on the other hand, all observers agree as to the marked action of local bleeding. In the case of a strong man, twelve to sixteen leeches may be applied,

and afterwards an iceberg over the region of the liver. Mercurial ointment is useless, you may at the most make use of calomel, five to seven grains for a dose. When we cannot prevent the formation of an abscess by local depletion and rest, we must turn our attention to this. There are authors who advise puncture in every case, whilst others consider this proceeding to be rather dangerous. Perforation may take place into the lungs, the stomach, or intestines, or exceptionally into the pelvis of the kidney, and finally through the skin. The most favorable is rupture into the lungs, stomach, or intestines; the most unfavorable rupture externally through the skin, as air enters immediately, and the perforation generally takes place at a time when the patient has no longer strength to successfully withstand the consequent exhaustion.—*Medical Press.*

EMBOLIC INFARCTION OF MUSCLES. — That the muscles, like the other organs, of the body, are liable to be the seat of embolic infarctions is discussed by M. Girardeau in a recent article in *Revue de Médecine*, and he attributes the rarity of this occurrence to the fact that the muscles are so seldom examined after death, and partly (probably mainly) to the readiness with which collateral circulation is established in case of blockage of a muscular artery. It is different in cases of pyæmia, where muscular metastatic abscesses are frequent, but in ordinary cases of cardiac disease, where the viscera show ample evidences of embolism, there are very few records of muscular infarction. Cornil and Ranvier, admitting this rarity, state that they have met with two instances, and that they were characterized by absence of hemorrhage.

Girardeau supplies notes of three cases. The first was a case of chronic mitral disease, with general atheroma. The right sartorius muscle was found to be ruptured, the broken ends imbedded in the hemorrhagic effusion, and their muscular fibres granular. The spleen contained two old infarctions.

The second case, of longstanding mitral and aortic disease, with arterial atheroma, exhibited a firm, yellow-colored mass in the substance of the pectoralis major muscle, sharply marked off from the healthy tissue, and resembling a visceral infarct. The spleen, kidneys and brain were also the seat of embolism.

A third case, quoted from Lefevre's thesis (1867) was of the same class, and was farther complicated by dry gangrene of the left foot and leg.* In this case a yellowish gray mass of degenerated muscular tissue occurred in the substance of the vastus externus muscle. These three cases were, it will be seen, of chronic heart disease, and Girandeau asks whether these muscular infarctions could not also occur in the course of acute endocarditis in young subjects. *A priori* such an event is not impossible, but some experiments made by him at Alfort were wholly negative in their results. He concludes that many conditions may be necessary to the production of the event, among which he enumerates degeneration, roughening, and inelasticity of the arteries, an enfeebled heart, and a more or less marked asphyxial condition, impairing the nutrition of the muscles. — *Practitioner.*

CORROSIVE SUBLIMATE IN VENEREAL WARTS.—A correspondent writes us that having been advised to apply a solution of one grain to the ounce of corrosive sublimate, to a case of venereal warts which came under his care, he found after the application through a mistake a solution of ten grains to the ounce was applied. The result was so satisfactory that he determined to still further increase the strength, and on his next case he made the solution of the strength of twenty grains to the ounce with excellent results. He now also applies this solution to chancres and chancroids, and also to indolent ulcers of the uterus, and is highly satisfied with the results. He has never witnessed the slightest symptoms of mercurial poisoning from this treatment and does not believe that the application of corrosive sublimate in this strength is liable to be followed by absorption. — *Medical Age.*

EARLY OPERATION IN TUBERCULOSIS OF LYMPHATIC GLANDS.—The following results, given by Garre, in *Deutsche Zeit. für Chir.*, have accrued from the removal of tuberculous glands. Out of 80 cases, 40 only have been followed up. All but 6 of these were in the neck, and these 6 were in the axilla. In half the cases an infective focus could be traced. The glands were completely removed, and in all cases the wounds readily healed: 21 remained healed and had no return. In 7 cases fresh glandular tumors, about the size of a hazelnut,

appeared, while 10 developed large glandular tumors the second time. Two died of phthisis within six months, 9 showed symptoms of lung affection, including 4 who exhibited no signs of it at the time of operation. — *Practitioner.*

MISCELLANY.

THE FOLLIES OF QUARANTINE.—While cholera was in Egypt, the methods of suppression which were so successful in this country and in India were constantly advocated in these columns, and the subsequent report upon the cause and course of the disease by Surgeon General Hunter amply justified our remarks. But since the disease broke out at Toulon on June 13th, we have remained content to register its progress, without iteration of conclusions that were so much decried in some quarters, have grudged no space for the views of recognized continental authorities. The official visit to Toulon and Marseilles of MM. Brouardel and Proust, on behalf of the Ministers of Commerce, has been recorded, together with their strange verdict that the disease was true Asiatic cholera, but not imported by the Sarthe, the Mytho, the Bien-Hoa, or any other vessel from Tonquin. M. Fauvel forthwith denied its being Asiatic cholera. He described it as a local epidemic due to the overcrowding of troops under deplorable hygienic circumstances, and we believe that he still maintains this view. Unfortunately his prophecy that it would not spread but rapidly disappear, has scarcely been fulfilled. In Toulon there have been a thousand deaths from cholera, whether Asiatic or not, and nearly twice as many in Marseilles. The epidemic has spread extensively throughout southern France and northern Italy, and in Naples there were 371 deaths in one day. In Alacante and Barcelona a like fatal form of diarrhoea has been officially recognized. To end the discussion among the French sanitarians Koch was invited to investigate the epidemic by the aid of his recent methods, and the whole world knows his decision.

Now, however, when the epidemic is diminishing, though not yet dead, we venture to point out once more the difficulty, and indeed, impossibility of discriminating offhand between Asiatic cholera and allied diseases. The contagionist denies that sporadic cholera has anything in common

with the Indian disease, yet the French sanitarians, who have so frequently blamed us for confusing the two, are themselves in this instance, so near home, hopelessly confused. For the moment the only diagnostic mark is the comma bacillus of Koch, but it is confidentially stated by Professor Treille, of Rochefort, that similar bacilli are found in all diarrhoea endemics in hot countries, and his observations are confirmed by Dr. Klein and by Prof. Timothy Lewis, two British authorities of the highest standing, and by Dr. Strauss and his competent colleagues in France. Even admitting the position of the eminent Teuton — and by us his views have been readily accepted as of high authority and great scientific weight—not a particle of evidence in favor of the absurd and antiquated practice of quarantine has been forthcoming during the present epidemic. When Virchow at the recent discussion at Berlin said that after the experience of 1830 nobody could believe in the efficacy of so-called sanitary cordons, or in the prevention of intercourse with places stricken with cholera, he only expressed the unanimous opinion of German sanitarians. And we are of the opinion that after the experience of 1884 it will be the unanimous opinion throughout Europe. For there is reason to believe that the medical profession of France and Italy not only is not responsible for, but has disapproved of the sanitary cordons of amateurs that have surrounded the villages, of the bands of cowardly ruffians who have beaten and threatened to shoot defenceless men and women who have offered to enter their towns, and of the base and ignorant panic that caused a naval officer to throw himself from a window, and a young man to cut his own throat from fear of the cholera.

In the *Annales d'Hygiène Publique*, an able French sanitarian has recently lodged a complaint against the violent and vexatious measures of quarantine leveled by Italy and Spain against France. Not content, he says, with a ten days' quarantine at all their ports, they have established a useless land quarantine at the frontier; every pass in the Alps and the Pyrenees is guarded by patrols, and travellers are crowded into filthy lazards for seven days. Quoting from the *Temps* he shows that the prohibitive measures in Italy were from the first day pushed to absurd extremes. The Papal Nuncio remains at Paris, unable to

pass the frontier, and the French Ambassador is there too, for to reach the Quirinal he must pass eight days in the barracks at Bardonnechia, and risk being shot by the peasants and sentinels if he dared look over the walls. The lazarets of Italy have been crowded with 7,000 miserable inhabitants, none of them, strangely enough, have been seized with cholera, yet, with all these vain, obstructive and vexatious precautions cholera has broken out in Naples more severely than elsewhere. In Spain the lazarets are filled to overflowing. It is not merely a question of spending seven days in them, the traveller must wait a week for the chance of doing so.

But Dr. Da Claux does not only inveigh against the follies of Italy and Spain, he strongly condemns as impracticable the attempt to put a cordon around Toulon. — "My humble opinion," he adds, "is that if the gates of Toulon had been shut the inhabitants would have passed under its walls." It would, indeed, be difficult for any sanitarian to justify the acts of folly which have been committed through panic in France. Though it was well known that within ten days of the first outbreak two-thirds of the inhabitants of Toulon and Marseilles had fled from their cities, many of them to Paris, which has remained singularly free from the epidemic, yet at Lyons every passenger from the south continues to undergo a mysterious rite. For a quarter of an hour a spray of carbolate of soda is played upon him, and then he is allowed to go free. In other towns the hapless visitor is shut in a room with sulphur heaped on live coals.

Those of us who have seen cholera, and those who heard Sir Norman Chevers tell us at the recent Social Science meeting in Birmingham that during his thirty years' experience in India he had never seen a single case of contagion, may smile at these simple attempts to destroy bacilli which, if anywhere, are deep in the intestinal canal, but those who have experienced these fumigations cannot smile. English invalids have received a scare that will be difficult to overcome. They might take their chance with the cholera but the lazarets and fumigations are intolerable. In truth, each nation appears to distrust the other. Reprisal quarantine has reached its climax, commerce is deplorably disorganized, and the absurdity of the triangular duel between France, Spain and Italy is admitted almost

as openly by the sanitarians of these nations as by the English and Germans.

Meanwhile, in England there has been neither cholera nor panic of cholera, and commerce has not been disturbed. When one cholera ship from Marseilles arrived at Cardiff last summer, and another entered at Liverpool, the measures taken by the Local Government Board were amply sufficient to prevent any outbreak. With us quarantine, whether by land or sea, is wholly discredited. Any vessel may discharge its cargo at any port. Of course, if there be cholera on board, there will be medical supervision of the sick man, but the destruction of cargoes and detention in lazarets, which is universal in Mediterranean ports, is unknown here. Of land quarantine English sanitarians have really no personal experience. It is known to have failed in India, and it has been rejected as useless in Germany. But no nation has more evidence of the inutility of port quarantine, and whenever an international conference is called we shall be ready with proofs that cholera is but rarely carried in ships; that, as Von Pettenkofer insists, it dies away after a fortnight's voyage, and that medical supervision of the sick, together with adequate sanitation, are the best methods for preventing an epidemic. M. Clementeau says it would be more easy to revise the constitution than to cleanse Toulon, yet it is a task to which the inhabitants must ultimately devote themselves if they would keep out cholera. — *British Med. Jour.*

ON THE DESIRABILITY OF ESTABLISHING BACTERIOLOGICAL LABORATORIES IN CONNECTION WITH HOSPITAL WARDS.—The present paper must be looked on as the direct outcome of that read before the Association, at its meeting last year in Liverpool, by Dr. Dreschfeld. To any one who heard that paper, which treated in so thorough a manner of the relations of micro-organisms to disease, three facts became at once apparent; that,

1. Much work has been, and is being, done as regards this question.
2. Much more remains to be done.
3. A great deal of this work is being done abroad.

In these researches, the United Kingdom is not taking the position which its high standing in other departments of science would warrant one in anticipating.

We know much already about anthrax, tuberculosis, ague, pneumonia, relapsing fever, erysipelas, and glanders; and here we must pay a tribute to the work of Dr. Greenfield, the President of this Section, whose researches on anthrax may be pointed to as one of the achievements of this country in the domain of micro-organismal pathology.

There remains, however, a whole series of diseases of which we at present know but little, and which are now being investigated; such are pyæmia, septicæmia, syphilis, typhoid, typhus and scarlet fevers, diphtheria, and others. On inquiring how this country can take a greater share in these investigations, one is at once met by the assertion that it is largely handicapped by the repressive action of the Vivisection Act; and thus has arisen a form of paralysis, or at least paresis, amongst our scientific workers. This form of paralysis is, however, quite an unnecessary result; for, notwithstanding these restrictions, some useful work may be accomplished.

Dr. Dreschfeld clearly points out some directions in which this may be done, and, amongst others, directs our attention to such subjects as the possibility of altering micro-organisms by repeated cultivation in nutrient media, either as regards their form or their function; the question where their spores lie dormant, in the air, in water, in the soil, or in food, thus opening the whole question of infection and contagion; and how long they retain vitality, how they enter the body, and how they can be most easily destroyed.

As regards these most important questions, much can undoubtedly be done without the aid of vivisection, and there are two ways in which these investigations may receive valuable assistance, namely:

A. The institution of bacteriological laboratories; rooms set apart for the study of these lower forms of plant-life.

B. The transmission to such laboratories of morbid materials, collected from cases in which micro-organisms may play a causative part; and their thorough examination.

The laboratories, to be most efficient, should be placed where the micro-organisms occur—namely, in hospitals; and in connection with each hospital a small room fitted with the few necessities for this class of study could be easily established, and

placed under the superintendence of the medical staff. In the great centres of medical education, this is already accomplished; but in the numerous provincial hospitals a vast amount of most valuable material is being constantly wasted; where, if such laboratories existed, and were conducted by the resident surgeons or junior practitioners of the neighbourhood, much valuable material would be gained.

The cost of such a room is trifling. If gas and water be laid on, it merely remains to fit up a set of sterilising and incubating apparatus, such as that devised by Koch; and to provide the necessary glassware. This can be done for £10.

Much can be accomplished in the cultivation and study of micro-organisms with an ordinary microscope. The interesting and valuable work of botanical classification may thus be advanced, and the general physiological tendencies of various organisms observed. If, however, delicate and absolutely reliable results are to be attained, a powerful instrument must be added to the fittings of the laboratory. The most desirable is the microscope of Zeiss of Jena, which, fitted with Abbe's condenser and a one-twelfth inch oil immersion-lens, cost about £30. So powerful a microscope is, however, by no means essential.

Could the hospital authorities be persuaded of the importance of such a step, the withdrawal of a single bed for a year would more than cover the primary cost of a most useful adjunct to hospital efficiency, and the subsequent cost would be very small indeed. If such laboratories could be founded, more attention would be paid to giving the requisite instruction to students in the medical schools; and they would thus pass out with the requisite knowledge for undertaking the work.

Turning now to the second aspect of this question, we shall find that many medical men, who have neither time nor opportunity to carry out such studies themselves, are yet quite prepared to act as collectors of material from any interesting cases which occur in their practice.

The method I have devised is to make use of capillary lymph-tubes to collect blood and morbid fluids, which are at once sealed up hermetically, having been previously sterilised by soaking in absolute alcohol. These are transmitted by post in small wooden cases, securely fastened, and with a label attached for the address.

These can be supplied in any quantity, containing six tubes, and with a label attached, at a cost of less than three farthings each. In the case, there is room for a small scroll of paper, which prevents the tubes from shaking about, and supplies room for a few short notes of the case from which the morbid products are collected. The whole goes through the post without any risk, and, as experience has proved, with results which leave nothing to be desired.

If it be thought desirable to send tissues, they must be removed with antiseptic precautions, and dropped immediately into molten paraffin; and thus they can be transmitted without fear of contamination. In conclusion, I believe this question to be one of vital importance at the present juncture; and I would propose that this Section should approach the Association with a plea for the importance of encouraging this sort of work. I would suggest that a committee be appointed, on the basis of the Collective Investigation Committee, with power to grant funds for setting up a certain number of centres for carrying on the work, and for supplying tubes to medical men all over the country who are willing to transmit material to the various centres, where it can be thoroughly investigated—in many cases, it may be, with the aid of a vivisection-license. I may mention, in this connection, that Mr. Hallam, the head of the Veterinary Department in India, and a Fellow of our Edinburgh College, proposes making arrangements for carrying out such a plan in the districts of that country, in connection with diseases of the lower animals; and it would be well if, in this country, a subject which is the great question of the day in medical science might obtain that amount of attention which it deserves, and which will supply fields for labour of no less scientific interest than of practical utility, the magnitude of which is as yet beyond computation.

A MICROCEPHALOUS GIRL. — At the recent meeting of the Berlin Medical Society Prof. Virchow introduced a subject of considerable interest, a girl with a 'slight tho' normally developed figure, but with a diminutive head, scarcely as large as a man's fist. She came from Offenbach, and was introduced by her mother, a tall, large-boned woman. The following is a description of the girl:

Her face is not larger than that of a new-born child, with sharply projecting nose and prominent jaws; her complexion is delicate and her features resemble those of a bird of prey. The only word besides some inarticulate sounds that the girl can pronounce is mamma. On perceiving the large assembly, and on having to submit to her head being felt and measured by several of the members, she became cross and peevish, notwithstanding the kind encouragement she met with. Prof. Virchow said he had seen the girl for the first time ten years ago. He had recently examined her, and found that her body had grown considerably since then, and had developed quite normally, but the head, although a few centimetres larger, had remained microcephalus. The child's parents were tall, strong-boned and quite normally built. Seven children have been born to them, and four of these children—the oldest, the fourth, the fifth and the youngest—were microcephalous, while the other three were regularly developed. The girl presented to the meeting was the only one of the four microcephalous children that lived, the others were either born dead or only lived a short time. The eldest of the

family that was normally developed, the one born after this child, was to have been introduced to the meeting to be compared with her sister, but only a short time before their intended departure together she became raving mad. The madness was brought on by the anxiety from which the whole district was suffering on account of floods in the neighborhood—a circumstance which Professor Virchow considered of great importance in the question of transmission.

Prof. Virchow also exhibited several specimens from his collection of skulls for purposes of comparison, a normal skull of an aboriginal native of New Britain, and the skull of a microcephalous person from the province of Posen. That of the girl introduced was smaller than the latter skull and the girl herself was older than any previously known case. When she was at home she sat quietly, and preferred avoiding the other children, generally withdrawing in a corner of the room. She ate and drank purely mechanically. Her mental development did not exceed that of a six-months-old child, and she could not be left to herself without supervision. — *British Med. Jour.*

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Original Articles.

THE MORTALITY FROM PULMONARY CONSUMPTION.

A Paper read before the Cincinnati Medical Society November 4, 1884.

By JOHN L. DAVIS, M.D., Cincinnati, O.

In presenting to-night for your consideration a paper on the mortality from pulmonary consumption it is my intention, with your permission, to make this the first paper of a series on diseases of the lungs, to be given during the course of the winter.

As explanatory of my choice of subject, I take the liberty of stating that a large majority of the patients that have come under my observation have been affected with some disease of the respiratory tract; consequently my study and investigation have necessarily been directed toward this class of diseases. It is, moreover, my fortune to be professionally associated with a gentleman of admirable diagnostic skill in lung diseases and acknowledged success in their treatment. These combined circumstances enable me to enter upon the consideration of this subject with less hesitancy than I should feel in undertaking the discussion of any other class of diseases.

Pulmonary consumption is of all diseases the one most meriting our careful study and inquiry, whether we regard its universal prevalence or its dreadful death rate. Its ravages have wasted every land; no age has passed without its countless victims; rank and sex and season are powerless to check its fatal progress. More men have died of consumption than have been killed in all the wars from the beginning of history. All the plagues and famines and epidemics ever recorded have claimed fewer victims than consumption. It has been estimated that one-fifth of humanity have died of this terrible disease. According to Hirsch two-sevenths of the world die of this malady; Ruehle agrees with this estimate, though Niemeyer believes that not more than from one-seventh to one-fifth of human mortality is due to pulmonary consumption. Although three million persons die every year from this disease (*Archiv de Medicin*, June, 1865) it cannot be said that its death rate has changed in modern times (*Ziemssen's Encyclop.*, Vol. V).

It is only in recent years that acc vitality statistics have been recorded; all reports relative to the mortality pulmonary consumption, earlier than nineteenth century are more or less certain and misleading. Although reliable figures bearing upon this question can be given, we may realize the prevalence and fatality of consumption in preceding ages by reference to the work of almost all of the old physicians.

Even apparently accurate vital statistics are subject to some errors which should be borne in mind. Formerly almost every wasting disease was called consumption; hence the death rate from pulmonary consumption was probably exaggerated. On the other hand, there is a tendency toward over-minuteness and refinement of nomenclature that individualizes diseases which are, in reality, consumption and should be so classed. This important fact is recognized by life insurance companies, properly appreciated; for their successful business enterprises depends upon the accuracy of vital statistics. The *Manual of Life of New York*, from a large experience claims that all deaths returned under the following heads should be attributed to consumption, viz.: Consumption of the lungs, laryngeal consumption, tubercular consumption, tubercular hemoptysis, hemorrhage of the lungs, sciss of the lungs, disease of the lungs, chronic pneumonia; also many cases reported as pleurisy, bronchitis or exhaustion. "Old age," "hemorrhage," "cold," and similar indefinite terms usually indicate pulmonary consumption. Such terms as these are frequently used to mask the harshness of a scientific diagnosis by physicians who understand the reluctance many persons feel in acknowledging the existence of consumption in their families.

Through such causes as these it is probable that the accepted mortality from pulmonary consumption is rather under the true rate.

Among the earliest reliable figures of the death rate in England, from this disease are the following:

For every 1,000 of the general mortality the deaths due to consumption number

In 1732, 135.

" 1737, 163.

" 1742, 165.

" 1747, 180.

In 1752, 187.

" 1757, 197.

That is, during this period of twenty-five years, from thirteen to twenty per cent. of all deaths in England were caused by consumption.

In 1802 Dr. Wm. Heberden wrote that consumption was then the most destructive of all diseases to adults; in London, he asserted, one in four of adults died of consumption; "though," he added, "many cases of decline and wasting diseases included under this name properly belong elsewhere."

In Guy's Public Health occurs this passage: "Heberden considered consumption was on an increase during all the last century. In his tables he claims 3,000 deaths annually at the beginning; 4,000 in the middle and 5,000 at the end of the eighteenth century."

In 1808, 55,000 died of consumption in England (Woollcombe). A few years later, Drs. Young and Woollcombe estimated the mortality from this malady in Great Britain and Ireland as one in four deaths.

In 1815 Dr. Young wrote, "Consumption is in almost all civilized countries the most extensively and inevitably fatal of diseases; in Great Britain it carries off one-fourth of the inhabitants; in Paris one-fifth; in Vienna, one-sixth. But even in Paris and southern France the death rate often reaches one-fourth of the total mortality."

In 1832, Marshall, in a review of various mortality reports for a period of 204 years, declared the death rate from consumption was remarkable for its uniformity.

In 1835 Sir James Clark estimated that in England from 1700 to 1821 the deaths from consumption were one in four of the total mortality; "it now," he writes (in 1835), "appears to constitute one-third of the whole mortality."

For the four years 1838, 1839, 1840 and 1841 the deaths from this disease in England numbered each year something over 59,000; the deaths for all causes averaging about 350,000 annually.

In London from 1840 to 1847 fourteen per cent. of the mortality was due to consumption. In Geneva, 1844 and 1845, the rate was ten per cent. In Paris it was higher.

In 1845, in London, in a mortality of 48,332, about fourteen per cent. was from

consumption. The same rate prevailed in the year following.

In 1848, with a population of 17,124,088, England had 420,977 deaths; sixteen per cent. of these (67,964) were due to consumption.

Dr. Caspar, of Berlin, gives the following mortality for several cities:

Berlin, for 10 years, one death from consumption occurred in every 5.7; Paris, 4 years, one in 5.5; London, 2 years, one in 6.2; Hamburg, three years, one in 4.6; Stuttgart, 10 years, one in 4.7; New York, 11 years, one in 5; Philadelphia, 7 years, one in 7.7; Baltimore, 8 years, one in 6.7; Boston, 7 years, one in 5.9.

In 1850 Dr. Farr showed that thirteen per cent. of all deaths were from pulmonary consumption. He said, "Of every 1,000 of the population, 2.6 die annually of this disease."

In 1851, the same learned physician, basing his statement on the Registrar General's report, declared that, "consumption causes as many deaths as all other lung and bronchial diseases together; the deaths from diseases of the respiratory system amount to one-fourth of all mortality."

In 1853 the Registrar General asserted that "since 1850 the deaths from consumption have increased progressively without any very evident reason."

The following table is taken from the reports of the Registrar General (London):

Year.	Total Mortality.	Consumption.	Per cent.
1860.	61,821	7,748	12.3.
1861.	65,001	7,716	11.8.
1862.	66,950	7,749	11.6.
1863.	72,346	7,991	11.0.

The Registrar General wrote in 1860: "Consumption is the most fatal of all diseases which afflict humanity, causing more than 12 per cent. of the mortality."

In 1871 in England 11 per cent. of the mortality was due to consumption. In 1879 a little over 10 per cent. of all deaths were from the same cause.

In our own country the disease is equally prevalent. In 1850 with a total mortality of 323,023 there were 33,576 deaths from pulmonary consumption; in 1860, in a mortality of 394,153, consumption caused 49,082 deaths; in 1870, of 492,263 persons, dying in the United States, 69,896 died of consumption. The tenth census shows a population of 51,155,783, of whom (during 1880) 756,893 persons died, including

91,651 cases of pulmonary consumption. The death rate from this disease in several of the larger States seems to be still higher. In the total mortality for 1880 consumption caused :

In New York,	16.75	per cent.
" Pennsylvania,	14.21	" "
" Ohio,	17.77	" "
" Kentucky,	17.42	" "
" Indiana,	15.89	" "

The New England States show a mortality from this disease varying at different times from 14 to 25 per cent.

In Portsmouth, N.H., for the first twenty-five years of this century, one death in every 5.2 was from consumption. In Boston, from 1830 to 1849, one-seventh of the mortality was from this cause. In Providence, from 1841 to 1845, one death from consumption occurred in every 4.58. In New York City, from 1811 to 1845, this disease caused one death in every 5.03 of the mortality. Philadelphia and Charleston, S.C., show a slightly better rate.

In our own city (Cincinnati), during the past seventeen years there have been 88,308 deaths; of this number pulmonary consumption caused 11,153 or 12.7 per cent.

Even among insured lives the rate of mortality is high, though here it is reduced to a minimum on account of the rigid examinations which these companies recognize as necessary to diminish the immense risk entailed by this most insidious and fatal of diseases. Owing to this care in the medical examinations a much lower death rate from consumption exists among insured lives than among the general population. Nevertheless pulmonary consumption remains the disease most feared by insurance companies. It has been clearly demonstrated that consumptives, who are insured, live out less than one-fifth of their expectancy. This is an appalling revelation, when we consider that at the time the policy is issued the applicant is in perfect health as far as the most skillful medical examination can show. Despite this apparently hopeful assurance of longevity, it is a fact that among insured lives, pulmonary consumption destroys a very large proportion, and that too, on an average of from six to seven years after the issuance of the policy. The following table represents the mortality from diseases of the respiratory system occurring in the experience of eight of the

largest British companies. It is safe to believe that not less than half of these deaths were from pulmonary consumption :

	Gresham.	Scottish Amicable	Scottish Equitable	Clerks	Equitable	Gotha	Widow's Fund	British	Total.
Total Mor- tality.	1000	773	1855	1008	4095	2471	1398	1165	13765
Diseases of Resp. System	200	78	219	125	508	251	180	168	1720
Per Cent.	20	10.9	11.8	12.4	12.4	10.2	12.9	14.9	12.6

The first report of deaths in the Standard Life Assurance Co. (1853, Dr. Christison), shows the rate from consumption was 10 per cent., which would have been 12 per cent. except for violent and unusual epidemics which had recently prevailed. In 1861 the second report of this company showed the death rate from pulmonary consumption to be 10.8 per cent., which was commented upon as being low; and it was asserted by Dr. Christison, "that probably the proportion of deaths from this disease cannot be reduced sensibly lower with the means of inquiry which science now affords." In 1871 the same rate prevailed.

In 1862 Dr. Fleming, the medical adviser of the Scottish Amicable, from an analysis of 773 deaths in that company during a period of 34 years, found that consumption caused one-seventh of the mortality. He wrote, "of all diseases this is the one which assurance companies most dread, as from it the greatest amount of premature mortality occurs."

The Briton Life Co., for 1867, had a death rate of 14.3 per cent. from pulmonary consumption compared with the total mortality; in the Gresham, in 1868, the rate was 15.3 per cent. In the New York Mutual Life, in 1872, 13 per cent. of the deaths were from this disease. The first report of the New York company showed that to consumption it owed 17.61 per cent. of its total mortality; but it was stated that a more critical examination might increase these figures to 20 per cent.—a rate that subsequent experience realized. Meech has shown that in the experience of twenty-seven companies the average mortality from consumption as compared with the total mortality is 18.3 per cent.

In the consideration of the mortality from pulmonary consumption an important question is the age at which the disease is

most prevalent. Several high authorities maintain that it is most frequent in early manhood and comparatively rare in advanced age. Niemeyer says that between the ages of 20 and 30 the malady attains its greatest frequency, becoming more rare as life advances, without however, becoming quite unknown even in extreme old age. Flint and Bennett express similar views. Reynolds declares that pulmonary consumption is not common in early infancy or in advanced age.

Dr. Fleming believes (1862), from a large life insurance experience, "that the hereditary or constitutional proclivity to consumption is well exhausted by 45—presuming the individual is then strong and hale; the very large proportion of cases occurring after that age are acquired, not hereditary."

Meech, in his analysis of 37,624 deaths which occurred in twenty-seven life companies, found that the earlier years presented the greatest death rate from pulmonary consumption. As compared with the total mortality in each decade, consumption caused the following percentage:

From 20 to 30, 30.3 per cent.

" 30 to 40, 25.8 " "

" 40 to 50, 17.8 " "

" 50 to 60, 10.8 " "

" 60 to 70, 6.5 " "

" 70 to 80, 3.5 " "

It would appear from the Brompton Hospital Reports, that in that institution the greatest mortality is between the ages of 20 and 30.

The Gotha Life Assurance Bank in 1855 published a report which shows the great frequency, relatively, of consumption in the early years of insurance. Of the total mortality, consumption caused between the ages of 15 and 30, 28.40 per cent.; from 30 to 40, 26.21 per cent.; 40 to 50, 21.51 per cent.; 50 to 60, 13.73 per cent.; 60 to 70, 8.10 per cent.; 71 to 87, 2.27 per cent.

For 1000 persons living in each of the following periods, the number stated die annually, according to the English census reports, and in the experience of the Scottish Amicable:

	Under 15	15-25	25-35	35-45	45-55	55-65
Eng.,	3.56	4.30	4.90	3.48	2.86	2.01
S. A.,	2.45	2.59	1.61	1.42	1.11	1.14

A table prepared by Dr. Guy, in 1851, showed almost exactly the same figures; in

his reports the table was prepared from the Registrar General's records for England and London.

According to the experience of the Equitable the highest mortality from pulmonary consumption takes place between the ages of 40 and 50.

Dr. Begbie, in his able investigations of this subject, agrees in his conclusions with the Registrar General, that the largest proportion of deaths occurs between 30 and 40 years of age.

Dr. Chambers, in his pathological reports (*Medical Times*, August 11, 1872), shows from more than 2000 post mortem examinations that no age is free from this disease; though the largest number of cases occurs between 15 and 40.

The Scottish Widow's Fund showed that for every 100 insured persons dying in each decade, the following number died of consumption:

From 20 to 30, 30.

" 30 to 40, 20.

" 40 to 50, 10.5.

" 50 to 60, 6.

" 60 to 70, 2.7.

Above 60, none in 650 deaths.

Dr. Farr, in a very thorough analysis (1863) of deaths in England for a large number of years, which he divided into three periods, found that in every period the mortality from consumption was greatest between the ages of 15 and 45, among both male and female lives. Before the age of 15 the annual rate of mortality from this disease was 1 in 1000 living; between 15 and 45, it was about 3.65 per thousand; after 60 the rate was less—about 2 per thousand of those living. In extreme old age only about 1 death in 2,000 living occurred.

It is the experience of the medical directors of the New York Mutual Life that "nearly one-third of all the deaths occurring among adult males in New York City are caused by consumption." (Report of 1877).

In 1852 Dr. Farr wrote that "consumption is the cause of nearly half of the deaths that happen between the ages of 15 and 35 years.

Despite these numerous figures which seem to indicate an excessive mortality during the earlier periods of life, Dr. Sieveking declares that statistics show that pulmonary consumption occurs with almost uniform frequency after 50 and at earlier

ages; no essential difference in death rate exists with any age.

Lænnec declares, "No age is exempt from phthisis." With this assertion Watson, Fuller and Chambers agree.

Dr. Christison, in his report for death returns in the Standard Life Assurance Co. (1853), wrote: "The notion long generally entertained that subsequent to adult age, the proportion of deaths from consumption diminishes with the advance of life, and becomes very small after 45 or 50, is not borne out by facts, and is therefore an unsafe principle to follow in regulating the acceptance of proposals for assurance."

The following tables tend to confirm this idea:

Age.	United States. Male population.	No. deaths from Con- sumption.	Death rate from con- sumption in 10,000
20-30	3351617	7842	23
30-40	2452999	6591	27
40-50	1829599	5054	27
50-60	1209855	3787	31
60-70	658153	3042	46
70-80	259318	1863	71
80-90	60042	664	111
<i>New York City.</i>			
20-30	75044	524	70
30-40	74884	528	71
40-50	56877	375	66
50-60	26760	226	84
60-70	11949	131	110
70-80	3892	59	151

Oesterlen's tables show similar figures. Of ten thousand living in each of the following periods, the number stated will die annually of consumption.

From 15 to 25, 33 deaths.

25 to 35, 41 "

35 to 45, 40 "

45 to 55, 39 "

55 to 65, 37 "

65 to 75, 27 "

75 to 85, 11 "

There is no doubt that this dreadful disease exists in young children, for post mortem examinations by numerous pathologists have revealed tubercles in the lungs of infants. Chaussier found military tubercles in the lungs of a child which died at birth, and an encysted abscess in the lung of another. Husson and Billiard of France made similar discoveries. So frequently does the disease exist in children that Guersent, an experienced physician of the Children's

Hospital in Paris, claimed that at least two-thirds of the post mortem examinations he made, tubercles of the lungs were found.

We may therefore conclude that pulmonary consumption numbers its victims of all ages, though it appears to be most common in youth and early manhood.

Dr. Guy in a valuable paper on this subject asserts that "the age at which pulmonary consumption makes its attack varies with the employment, being earlier in those occupations characterized by a high ratio of consumptive cases. Thus, it is earlier in those following in-door occupations than in those employed in the open air, and in those using little exertion than in those using much. It also occurs very early in those exposed to the temptations of intemperance, and in those whose occupation leads to the inhalation of dust." The same truth has been demonstrated by many elsewhere. In the experience of the New York Mutual Life, the lowest rate of mortality from pulmonary consumption was found among carpenters and butchers, the highest among hatters, jewelers, and silversmiths.

In considering which sex is more likely to be affected by pulmonary consumption, we must bear in mind the greater number of male lives in the earlier years, and the reverse ratio in advanced age. Statistics show that 106 boys are born for every 100 girls. Prof. Faye gives the following number of boys born for every 1000 girls:—In Russia, 1089; France, 1066; Sweden, 1047; Norway, 1062, 1061, 1057. The mortality up to the age of fifteen is greater among boys; from fifteen to thirty it is greater among females; after this time the rate becomes gradually higher among men.

Our most reliable figures are obtained from the reports of the Registrar General. During 1837, 1838 and half of 1839, in England, among men there were 69,009 deaths from pulmonary consumption, and among women there were 77,329. That is, for every 100 men dying of this disease, 112 women died of the same cause. In 1847 the same ratio prevailed.

According to Mr. Ancell, of 135,590 deaths from phthisis recorded in the Irish reports, the proportion was 113 women to 100 men. In 1853 and 1871 the same preponderance of mortality among females existed.

Dr. Farr's elaborate report in 1863 for the three periods—1848 to 1854, 1855 to 1859, and 1858 to 1863—shows

1. That in every period more females than males died annually of pulmonary consumption.

2. For every 1000 males and 1000 females living, a larger number of females than males died of this disease annually.

3. Under fifteen years of age the rate of mortality from this disease was 22 per cent greater among females, from 15 to 65 the rate was about equal for the two sexes, and above 65 a slightly higher rate prevailed among men.

A summary of the Registrar General's reports for 22 years shows that in every instance a higher death-rate existed among females, and this preponderance amounts to about 12 per cent.

In the United States census of 1870 the death rate among women from this disease is 12 per cent greater than among men. In 1880 the disproportion is still more marked, amounting to over 30 per cent. The statistics of New England show a still more startling preponderance of deaths from consumption among women; for every 100 men dying of this disease, 156 women die of the same cause. In New York city, in a certain period, for every hundred men, one hundred and thirty-five women died of consumption. Statistics show almost invariably a higher death-rate among females. The few isolated reports from hospitals and small districts, in which the mortality from the disease appears to be, at least temporarily, higher among men, can hardly stand against the overwhelming facts which tend to prove the contrary.

Finally, in regard to the effects of climate and latitude upon the mortality from pulmonary consumption, it may be stated that cold countries show a lower rate than do temperate or warm regions; the farther we proceed north after leaving the temperate zone, the less the mortality from consumption becomes. For able papers on this matter I would call your attention to the British and Foreign Review, 1858 and '60; the Lancet, 1857, and M. Boudin's work on Medical Geography.

In conclusion, the facts which have been presented may be summarized as follows:

1. Pulmonary consumption is now, and as far as authentic medical record reaches, has always been the most prevalent and fatal of diseases.

2. The death-rate from this disease varies in different countries from 12 to 20 per cent of deaths from all causes. This mor-

tality has not changed materially in modern times. Deviations from the average seem to be due chiefly to inaccuracy of statistics, carelessness in diagnosis, and indefinite nomenclature.

Pulmonary consumption is singularly free from the fluctuations depending on temporary and transient causes which affect other diseases.

3. No age is exempt from this disease.

Autopsies have revealed its existence in young children and infants, and many instances are recorded of its fatal occurrence in persons of extreme old age. Statistics, however, show that the disease is most fatal between the ages of twenty and forty. But the mortality at this period is not so excessive relatively, as has been supposed; after the age of forty the death-rate becomes less every year, though the disease continues to the extreme limits of human life.

4. The female sex is more susceptible than the male to pulmonary consumption. The ratio is, on an average, as 120 to 100.

5. Cities and crowded habitations in general show a larger mortality from this disease than prevails in less crowded localities.

6. Indoor occupations, and those vocations which necessitate a cramped position or sedentary habits, favor the occurrence of pulmonary consumption.

No climate offers perfect immunity from the disease, though statistics show a lower death-rate in cold countries, as Canada, North Scotland, Scandinavia, etc., than in temperate or warmer regions. Further investigation with reference to the influence of climate upon pulmonary consumption is desirable.

NOTES ON THE METEOROLOGICAL MEDICINE OF CINCINNATI.

By THOMAS C. MINOR, M. D.,
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SPRING DISEASES—CONTINUED.

In summer, diseases of the digestive apparatus are predominant. Cholera infantum, cholera morbus, diarrhoea, dysentery, hepatitis, gastritis, enteritis, and dyspepsia are exceedingly common, and deaths from these causes frequent. In the case of cholera infantum and diarrhoea, in children, fever often accompanies the manifestation of intestinal disorder, and such complications as meningitis and convulsions are of ordinary occurrence.

TABLE VII.	Week ending	Deaths from all causes.	Mean week- ly value of Barometer.	Mean week- ly value of Thermom.	Rain, inches. — clear.	Principal cause of death.	Class.	Order.
1873	Sept. 6	113	30.01	76°	.08	Diarrhœal dis.	Zymotic	Miasmatic
	" 13	118	30.11	69°	.05	do.	do.	do.
	" 20	78	30.06	64°	.45	Convulsions	Local	Nervous
	" 27	100	30.05	64°	1.14	Consumption	Constitutional	Tubercular
1874	Sept. 5	100	30.07	76°	1.14	Consumption	Constitutional	Tubercular
	" 12	97	30.07	77°	—	Diarrhœal dis.	Zymotic	Miasmatic
	" 19	89	30.01	73°	.11	do.	do.	do.
	" 26	105	30.14	67°	.25	do.	do.	do.
1875	Sept. 4	103	29.95	77°	.04	Diarrhœal dis.	Zymotic	Miasmatic
	" 11	102	30.02	73°	.35	do.	do.	do.
	" 18	95	30.01	65°	.04	do.	do.	do.
	" 25	97	30.12	54°	.07	Consumption	Constitutional	Tubercular
1876	Sept. 2	85	29.96	72°	.61	Diarrhœal dis.	Zymotic	Miasmatic
	" 9	110	29.96	73°	.90	do.	do.	do.
	" 16	80	29.93	66°	.45	do.	do.	do.
	" 23	75	29.79	66°	.95	Consumption	Constitutional	Tubercular
	" 30	99	29.97	58°	.61	do.	do.	do.
1877	Sept. 1	88	29.98	77°	.13	Diarrhœal dis.	Zymotic	Miasmatic
	" 8	79	29.98	66°	.25	do.	do.	do.
	" 15	75	29.85	71°	1.23	do.	do.	do.
	" 22	73	29.97	64°	.05	do.	do.	do.
	" 29	88	30.00	72°	—	do.	do.	do.
1878	Sept. 7	78	29.98	75°	.28	Consumption	Constitutional	Tubercular
	" 14	83	30.00	66°	1.30	do.	do.	do.
	" 21	94	30.08	66°	.48	Scarlet fever	Zymotic	Miasmatic
	" 28	121	30.19	62°	.76	do.	do.	do.
1879	Sept. 6	106	29.91	71°	2.57	Consumption	Constitutional	Tubercular
	" 13	86	30.14	63°	1.31	Diarrhœal dis.	Zymotic	Miasmatic
	" 20	72	30.14	61°	—	Consumption	Constitutional	Tubercular
	" 27	91	30.19	61°	.13	do.	do.	do.
1880	Sept. 4	96	29.93	79°	.86	Diarrhœal dis.	Zymotic	Miasmatic
	" 11	84	30.13	66°	.04	Consumption	Constitutional	Tubercular
	" 18	85	30.10	65°	.23	do.	do.	do.
	" 25	81	30.14	68°	.01	do.	do.	do.
1881	Sept. 3	135	30.06	82°	.39	Diarrhœal dis.	Zymotic	Miasmatic
	" 10	130	30.07	83°	.54	do.	do.	do.
	" 17	112	30.04	68°	1.27	do.	do.	do.
	" 24	93	30.07	74°	—	Consumption	Constitutional	Tubercular
1882	Sept. 2	135	29.99	73°	2.90	Diarrhœal dis.	Zymotic	Miasmatic
	" 9	105	30.09	71°	.29	do.	do.	do.
	" 16	99	30.03	70°	—	do.	do.	do.
	" 23	111	30.09	69°	1.29	Consumption	Constitutional	Tubercular
	" 30	90	30.39	61°	.78	do.	do.	do.
1883	Sept. 1	99	30.11	70°	.51	Consumption	Constitutional	Tubercular
	" 8	67	30.11	67°	.22	do.	do.	do.
	" 15	102	30.15	67°	—	do.	do.	do.
	" 22	81	30.00	67°	.65	Diarrhœal dis.	Zymotic	Miasmatic
	" 29	70	29.92	63°	.96	Consumption	Constitutional	Tubercular

TABLE VIII.	Week ending	Deaths from all causes.	Mean week- ly value of barometer.	Mean week- ly value of Thermom.	Rain, inches — clear.	Principal cause of death.	Class.	Order.
1873	Oct. 4	100	30.01	63°	.72	Scarlet fever	Zymotic	Miasmatic
	" 11	110	30.10	56°	.39	Consumption	Constitutional	Tubercular
	" 18	102	30.22	60°	—	Scarlet fever	Zymotic	Miasmatic
	" 25	136	30.10	48°	.72	do.	do.	do.
1874	Oct. 3	88	30.08	61°	.78	Scarlet fever	Zymotic	Miasmatic
	" 10	93	30.08	57°	.46	Consumption	Constitutional	Tubercular
	" 17	103	30.19	52°	.01	do.	do.	do.
	" 24	99	30.21	58°	.84	do.	do.	do.
	" 31	106	30.10	58°	—	do.	do.	do.
1875	Oct. 2	96	29.95	58°	.65	Consumption	Constitutional	Tubercular
	" 9	73	30.01	59°	.92	Small pox	Zymotic	Miasmatic
	" 16	95	30.04	46°	.96	do.	do.	do.
	" 23	84	30.06	53°	—	do.	do.	do.
	" 30	108	29.82	58°	.71	do.	do.	do.
1876	Oct. 7	90	29.90	51°	.20	Consumption	Constitutional	Tubercular
	" 14	82	30.07	48°	.34	do.	do.	do.
	" 21	88	30.01	54°	.07	do.	do.	do.
	" 28	73	29.90	53°	3.53	do.	do.	do.
1877	Oct. 6	83	29.93	65°	—	Consumption	Constitutional	Tubercular
	" 13	95	30.01	57°	.55	do.	do.	do.
	" 20	83	29.93	65°	.84	do.	do.	do.
	" 27	81	29.90	58°	.37	Pneumonia	Local	Respiratory
1878	Oct. 5	83	30.06	66°	.16	Consumption	Constitutional	Tubercular
	" 12	86	30.09	60°	.92	Scarlet fever	Zymotic	Miasmatic
	" 19	81	30.03	59°	.59	do.	do.	do.
	" 26	96	30.07	54°	.27	Consumption	Constitutional	Tubercular
1879	Oct. 4	93	30.19	71°	—	Consumption	Constitutional	Tubercular
	" 11	96	30.08	75°	.41	do.	do.	do.
	" 18	91	30.07	72°	.12	do.	do.	do.
	" 25	74	30.33	51°	.08	do.	do.	do.
1880	Oct. 2	93	30.06	62°	.98	Consumption	Constitutional	Tubercular
	" 9	91	30.08	61°	.04	do.	do.	do.
	" 16	100	30.07	64°	1.28	do.	do.	do.
	" 23	92	30.19	46°	.57	do.	do.	do.
	" 30	78	30.07	51°	1.09	do.	do.	do.
1881	Oct. 1	104	30.09	77°	.29	Diarrhoeal dis.	Zymotic	Miasmatic
	" 8	95	30.26	67°	2.51	Consumption	Constitutional	Tubercular
	" 15	107	30.23	66°	.94	do.	do.	do.
	" 22	113	30.22	59°	.71	do.	do.	do.
	" 29	96	29.95	59°	1.91	do.	do.	do.
1882	Oct. 7	91	30.21	67°	—	Consumption	Constitutional	Tubercular
	" 14	113	29.99	65°	1.10	Pneumonia	Local	Respiratory
	" 21	100	30.09	58°	.26	Consumption	Constitutional	Tubercular
	" 28	111	30.02	57°	.05	Scarlet fever	Zymotic	Miasmatic
1883	Oct. 6	88	30.04	61°	.43	Consumption	Constitutional	Tubercular
	" 13	80	30.10	69°	.11	do.	do.	do.
	" 20	96	30.30	56°	.65	do.	do.	do.
	" 27	68	30.11	50°	.09	Heart Disease	Local	Circulatory

TABLE IX.	Week ending	Deaths from all causes.	Mean week-ly value of Barometer.	Mean week-ly value of Thermom.	Rain inches clear.	Principal cause of death.	Class.	Order.
1873	Nov. 1	96	30.13	44°	.83	Scarlet fever.	Zymotic	Miasmatic
	" 8	93	30.18	48°	.32	do.	do.	do.
	" 15	122	30.07	41°	—	do.	do.	do.
	" 22	101	29.97	38°	.46	do.	do.	do.
	" 29	115	30.06	38°	1.77	do.	do.	do.
1874	Nov. 7	82	30.20	51°	.02	Consumption	Constitutional.	Tubercular
	" 14	112	30.22	50°	1.28	Scarlet fever	Zymotic	Miasmatic
	" 21	109	30.19	45°	1.59	Pneumonia	Local	Respiratory
	" 28	95	29.98	39°	2.33	Diarrhoeal dis.	Zymotic	Miasmatic
1875	Nov. 6	106	29.93	44°	.06	Small-pox	Zymotic	Miasmatic
	" 13	131	29.96	48°	2.14	do.	do.	do.
	" 20	118	29.90	43°	.50	do.	do.	do.
	" 27	129	30.22	42°	1.35	do.	do.	do.
1876	Nov. 4	83	29.96	57°	.22	Consumption	Constitutional	Tubercular
	" 11	82	29.96	45°	.71	do.	do.	do.
	" 18	63	30.01	49°	.84	do.	do.	do.
	" 25	82	29.92	40°	.34	do.	do.	do.
1877	Nov. 3	82	29.94	53°	.50	Consumption	Constitutional	Tubercular
	" 10	88	30.09	44°	1.18	do.	do.	do.
	" 17	91	30.14	50°	.15	do.	do.	do.
	" 24	65	30.06	49°	.92	do.	do.	do.
1878	Nov. 2	91	30.18	43°	.47	Consumption	Constitutional	Tubercular
	" 9	94	30.20	48°	1.08	do.	do.	do.
	" 16	101	30.04	50°	.94	Scarlet fever	Zymotic	Miasmatic
	" 23	96	29.88	47°	.11	do.	do.	do.
	" 30	96	30.04	44°	1.64	do.	do.	do.
1879	Nov. 1	90	30.17	50°	.04	Consumption	Constitutional	Tubercular
	" 8	84	30.20	46°	.26	do.	do.	do.
	" 15	83	29.94	66°	2.31	Pneumonia	Local	Respiratory
	" 22	80	30.18	38°	.71	do.	Constitutional	Tubercular
	" 29	87	30.18	45°	.77	do.	do.	do.
1880	Nov. 6	80	30.04	51°	2.23	Convulsions.	Local	Nervous
	" 13	68	30.16	48°	.89	Consumption	Constitutional	Tubercular
	" 20	90	30.28	30°	.13	do.	do.	do.
	" 27	98	30.56	25°	.40	do.	do.	do.
1881	Nov. 5	99	29.96	53°	.64	Consumption	Constitutional	Tubercular
	" 12	94	30.19	53°	1.27	do.	do.	do.
	" 19	100	29.25	48°	2.18	do.	do.	do.
	" 26	96	30.31	35°	.31	do.	do.	do.
1882	Nov. 4	110	30.16	56°	.22	Consumption	Constitutional	Tubercular
	" 11	119	30.15	56°	.46	Scarlet fever	Zymotic	Miasmatic
	" 18	110	30.19	45°	.65	Consumption	Constitutional	Tubercular
	" 25	93	30.21	39°	—	do.	do.	do.
1883	Nov. 3	86	30.00	52°	.57	Consumption	Constitutional	Tubercular
	" 10	100	30.06	57°	1.18	Convulsions	Local	Nervous
	" 17	79	30.36	35°	—	Consumption	Constitutional	Tubercular
	" 24	90	30.11	56°	.44	do.	do.	do.

Meningitis among adults is also most common at this season. These disturbances of the brain, coming on during trouble in the intestinal tract, are due to the over-excitation of the nervous system produced by a high external temperature acting on a body already enfeebled by a disturbed digestive apparatus. The zymotic diseases of an exanthematous character are decidedly modified by heat. Small-pox, measles and scarlet fever, when prevalent, exhibit a very much lighter mortality rate in summer than in winter and spring, for the reason that such diseases are much less liable to be complicated by pneumonia, dropsy or nephritis. In addition to exhibiting a less mortality rate in hot than in cold weather, the development of the exanthematous fevers is much less frequent, if we except typhoid fever which is much more fatal in the summer than in spring, the month of August being especially unfavorable for typhoid cases.

The mortality rate in hot weather from pneumonia, bronchitis, pleurisy, and consumption is *largely decreased*, and deaths from diseases of the heart are not uncommon, especially in the month of June. A decreased death-rate from renal affections is also noticeable, and patients with chronic Bright's disease enjoy more comfort in summer than at any other season of the year, inasmuch, as the skin largely assumes the function of the kidneys.

In summer time when a patient complains of chilly sensations, well marked anorexia, nausea, vertigo and constipation, the physician should be on his guard against the invasions of gastro-enteritis, cholera morbus, or dysentery; although an attack of diarrhoea, with full bilious passages, has saved many a person from an attack of apoplexy.

The fevers accompanying the disorders of summer at Cincinnati, have little or none of the malarial element marking the affections of the early spring and late fall, and quinine is very seldom indicated. When fevers are long continued, during the heated term, the brain symptoms are more marked than in cooler seasons. Cathartics, the mineral acids, diuretics, anti-spasmodics, refrigerants, and tonics, are the principal remedies to be used in the Ohio Valley during the season.

Following attacks of disease, convalescence in this latitude is slowly established at this season, and patients as soon as able

to be moved, should be sent, if possible, to the mountains of Pennsylvania, Virginia, Maryland, Kentucky, or Tennessee, or to the Northern Lakes, where a lower temperature prevails. American seaside resorts being notoriously unhealthy during the heated term should be avoided.

FALL DISEASES.

During the month of September, when the weather is very warm, diarrheal disorders still prevail, and deaths from cholera infantum and diarrhea among children under five years of age are quite common, this tendency however almost disappears by the second week in October. Children sent out of town in the latter part of June, in order to avoid digestive disorders, may be returned with little risk in the middle of October, or even earlier.

The three tables shown exhibit the principal causes of death during the fall months for a number of years past. It will be noticed that the fall like the spring appears to be one of the more healthy seasons. The seasons exhibiting extremes of temperature, like summer and winter, are usually the most unhealthy.

[TO BE CONTINUED.]

Society Reports.

CINCINNATI MEDICAL SOCIETY.

Meeting of November 4, 1884.

W. H. McREYNOLDS, M.D. JOHN L. DAVIS, M.D.
President. Secretary.

President's Address.

Upon assuming the duties of the office of president of the Society for the coming year, Dr. McReynolds said:

Gentlemen:—It seems appropriate for me to congratulate the Society upon the favorable auspices under which the new year opens. The report of the treasurer shows such a healthy financial condition that we need have no fear of embarrassment from that source interfering with our progress. It is true our membership is not imposing in number, but it is zealous in purpose and strong in industry, as the many papers and resulting discussions of the past year abundantly prove. While the accessions to our ranks have not been large numerically, they have been men who will give standing to the profession in their generation. I congratulate you upon the character of the new members admitted during the year.

We have heard complaints that the attendance has been small. It is true it might have been larger, but leaving out the very few who, for good reasons, have not met with us at all, the average attendance has been about one-third of our number. When we consider the distant localities from which many of our members are drawn, as well as the fact that we are engaged in a profession the duties of which can not be bounded by definite hours, this is not by any means a discouraging record.

One subject to which I wish to direct your attention and on which you will probably be called upon to express your opinion this winter is the creation of a state board of health and board of medical examiners. For this purpose a bill known as the "Sherman Bill" was before the legislature last winter, and was referred to a committee of which Dr. Sherman is chairman. A copy of this bill was sent to this Society and referred to a committee, in whose hands it still remains. I hope that committee will soon report and the society will take such action as the importance of the subject demands.

Now, in conclusion I return you my thanks for the honor you have done me in your choice of a presiding officer, and I hope the coming year will prove as profitable as the past one.

After the president's address a paper on the subject of

The Mortality from Pulmonary Consumption,

Was read by DR. JOHN L. DAVIS (see page 591, this issue), after which occurred the following

DISCUSSION.

DR. COMEGYS asked if the essayist had investigated the question of heredity with reference to the relative frequency of the transmission of this disease by each of the parents? It is generally asserted that mothers are much more apt to transmit consumption than are fathers, and this liability, as the doctor recollects it, is from one-fourth to one-third greater with mothers.

Another very interesting and vital point is the greater mortality among females. This question is of great importance in the consideration of consumption.

DR. TAYLOR hoped that the essayist would, in the further presentation of the subject of consumption, show what relation, if any, existed between this disease and the other cachexiæ.

DR. JOHN L. DAVIS replied that statistics show not only that females are more subject to pulmonary consumption, but that mothers are more liable to transmit the disease than are fathers, though the difference in transmission is not as great as many have supposed; life insurance records indicate that while mothers are about 15 per cent. more apt than fathers to be affected with the disease, they are also 6 per cent. more likely to transmit it to their children.

In answer to a query of Dr. Marsh, it could be said that while for every 1,000 girls born there are about 1,060 living boys born, the disproportion among those born dead is very much greater. Prof. Faye has shown that for every 1,000 females dead at birth there are from 1,350 to 1,450 males born dead, the ratio differing somewhat with different tables.

DR. EICHBERG then read the following translation:

The Present Status of the Treatment of Goitre.

By Prof. Bruns, of Tübingen (Volkmann's Series of Clinical Lectures, p. 244).

After referring to the history of goitre and its treatment, together with the prevalence of this affection in certain mountainous regions of Southern Germany, the author calls attention to the great change that surgical interference has brought about in our views of the prognosis and of the final result in all such cases. The last ten years in particular have witnessed an extension of the indications for the removal of these tumors, a cleaner and more precise method of operation, and a more careful sifting of material. The question is very properly asked early in the essay whether it ever is necessary to operate on goitre, and whether this latter constitutes a dangerous or even distressing malady? There must be an affirmative answer to both questions, not but that we become so accustomed to the sight of goitre in localities where it is endemic as to lose sight of the disfigurement it occasions, and that many individuals attain a ripe old age without ever having experienced any inconvenience from the goitre which they have carried for a lifetime. Such are the cases in which the goitre is large and dependent; and it is upon the observation of such cases that physicians and the lay public base the frequently expressed opinion of the entire harmlessness of the disease. The danger in all cases lies not so much in the size of

the tumor as in its relation to the trachea, pressure upon which causes the grave symptoms. A large, pendulous struma is often not as dangerous as the small, deep-seated, sub-sternal goitrous nodule.

Rose deserves the credit of having directed attention to the sequelæ and danger of goitre, the dislocation and compression of the trachea, interfering with the mechanism of respiration, leading to venous stasis in the neck, dilatation of the right side of the heart, with subsequent atrophy and fatty degeneration, bronchiectasis and emphysema. All these conditions constitute a permanent source of danger, which is often increased by stenosis of the trachea coming on to such an extent as to lead to dyspnoea and actual suffocation, so that in many cases tracheotomy must be performed, and often, too, on the spur of the moment. Rose also explained another danger, that of "goitre-death," by which is meant the sudden, unexpected death occurring in some cases which had previously presented no unfavorable symptoms. — Death is supposed by Rose to be due in such cases to a band in the trachea and occlusion of its lumen? from some sudden movement or change of position of the head and neck. This flexibility of the trachea Rose again considers dependent upon a softening and atrophy of the tracheal cartilaginous rings, from pressure of the gradually enlarging thyroid gland. It is this, and not the scabbard-like compression of the trachea which causes death.

Bruns feels called upon, from personal observation, to deny this opinion, as he has not in any case found such softening of the tracheal rings nor any atrophy, as proven by examination of twenty-one cases, in which there were signs of compression but no tracheal atrophy, and Bruns emphasizes his belief that the lateral flattening and angular bend in the tracheal cartilages are sufficient to explain the compressibility and ready closure of the trachea. These dangers are alluded to to prove that goitre patients should not be permitted to imagine that they enjoy entire immunity, but that they should always have assistance near at hand.

In considering the treatment of goitre a distinction must be made between the parenchymatous and cystic tumors. The parenchymatous growths are those in which external and internal iodine medication has long been employed, sometimes with as-

tonishingly good results, in others, with no results whatever. Benefit is more certainly obtained in young individuals with hyperplastic struma, in which no degeneration has as yet occurred. The result of the iodine medication is doubtful in the pure colloid tumors, and is entirely negative in calcified and fibrous struma. As a general thing, it may be said that the iodine treatment may be expected to do good only in those cases in which a decided diminution of the tumor is speedily apparent.

The same indications apply to the injections of iodine recommended by Lücke, which are not altogether devoid of danger, for it not infrequently occurs that suppuration and gangrene of the gland result, and often, too, sudden death follows immediately upon such injections. The author would find a cause for the fatal termination either in embolism, or in a nerve lesion leading to a paralysis of the cords and closure of the glottis, occasioned by the direct action of the tincture of iodine upon the pneumo-gastric of one side, affecting the other pneumo-gastric by way of reflex action, so that there is bilateral paralysis of the laryngeal nerves; in such a case, as shown by Smeon, the abductors are always the first to suffer, and their paralysis causes sudden closure of the glottis.

Supposing the iodine medication proves valueless, what other remedy have we? The answer is: the only certain plan is extirpation of the goitre. No success has attended the use of other measures to prevent the growth of parenchymatous goitres, such as the ligation of the thyroid arteries, electrolysis, disorganization with caustics, introduction of a hair, artificial softening, etc.

Not every goitre that is not relieved by the use of iodine should be extirpated, the operation being only indicated when there is serious inconvenience, or rapid growth of the tumor; under such circumstances long delay only diminishes the chances of successful operation.

In cystic goitre the iodine treatment is entirely useless. For unilocular cysts puncture with iodine injections is probably the best plan of treatment, when the cyst has smooth walls and fluid contents; in this way about 75 per cent. of such cases are definitely and permanently cured, though the operation is always attended by a certain degree of sudden asphyxia, which oc-

curred in one case of the author's, where death followed without any appreciable cause being discovered at the autopsy. The author therefore advises great care in the selection of cases for this procedure, and advises the exclusion of all that present any disturbance of the innervation of the larynx. The other varieties of cystic goitre, such as the cysts from softening of colloid material, those due to hemorrhage, and the multilocular cysts, are not amenable to this plan of treatment, and require either free incision or extirpation; the latter is preferable, and is more easily affected and less dangerous than extirpation of parenchymatous goitre.

With reference to extirpation and its success, the results in the last three decades have shown a decided advance, both in the method of operation and, in the proportionately low mortality (in the last ten years especially), over any preceding period, so that in the clinic under Bruns the last twenty-one consecutive cases were successfully operated on; and he states that the extirpation of a non-malignant struma, if undertaken in time, is an operation almost devoid of danger. It has been shown that total extirpation of the gland, when both sides were affected, involved no more danger than unilateral excision, and some surgeons believed themselves justified in urging complete excision in all cases, being strengthened in their belief by our ignorance of the physiological function and importance of the gland.

At this point, however, the latest experience on the subject calls an imperative halt!

Some Swiss surgeons noticed in several cases after the total extirpation of goitre, very serious disturbances of the general health, which Kocher has systematized to a distinct nosological affection to which he gives the name of *cachexia strumi priva*. These disturbances are especially apt to occur when the subject is operated on during the stage of development of the tumor, and begin, as a rule, between one and four months after operation. The whole number of cases of *cachexia* thus far known is 32. Kocher found it in all his cases of total extirpation of the thyroid except two, and in these there had been a recurrence of the goitre from some part of the gland accidentally left behind. Of these 32 cases 21 were females, 11 males; 13 occurred between 10 and 20 years of age; 12 from 20

to 30; 3 from 30 to 40; 2 from 40 to 50; 1 from 50 to 60, and 1 from 60 to 70.

The symptoms of the *cachexia* constitute a distinct nosological affection. Some months after operation, when the patient is seemingly perfectly well, there is developed a gradually increasing disturbance of general nutrition, which, in its highest development, leads to a well-marked cretinoid condition. The facial expression is strikingly altered, the entire face is puffed, the lips, especially, thickened and protruding, the color of the countenance becoming waxy, pale, and of a dirty yellowish tint. The swollen face, the coarser features and the sluggish change of expression present an almost idiotic habitus. The rest of the body becomes thick and plump, especially the hands, so that the fingers are hampered in their movements and can not be flexed into the palm. The skin of the body is everywhere dry, scaly, thickened, and of a peculiar, soft consistence, the perspiration absent, and the hairs of the scalp thin, dry and few in number.

Amongst the initial symptoms are a feeling of lassitude and fatigue, of weakness and heaviness in the limbs, of coldness and numbness in the arms and legs. The dexterity in the hands visibly disappears, so that fine work can no longer be executed; the movements of the body are slow, feeble and dragging, though there is no paralysis or atrophy of the muscles, which remain well developed. The speech is strikingly slow, some patients feeling as though the tongue had become thickened and heavy, and in some cases this enlargement can be actually observed.

The loss of bodily energy is attended by similar change in the mental functions, as speech and movement are slow, so mental impressions are slowly received and remembered after a long effort; the character of the patient changes, so that he becomes brooding, retired, quiet and indifferent. The mental powers do not seem to suffer any appreciable diminution for the first few years succeeding the operation, in the case of adults, save that the memory becomes weaker, but in children there has been noticed a decided diminution in the mental faculties. The organs of special sense are only affected in the gravest cases. The viscera show no decided change; in advanced cases there is marked *anæmia* in the form of *oligo-cythæmia*. There is no qualitative change in the blood corpuscles,

no increase of the white cells, but a constant decrease in the number of the red cells, which may go so far as to only leave half the normal proportion.

Bruns investigated all cases operated on by him, and found that of the whole number, in which any part of the thyroid gland had been left behind, remained perfectly well as much as twenty years after the operation, and as an interesting feature, it was noticed that when there had been a dangerous stenosis of the trachea, the latter had again subsequently dilated so that there was not the slightest dyspnoea. Of the cases of total extirpation three had been followed up. A woman of 26, operated on four months ago, showed no signs of any disease. The second patient, a young man of 24, operated on six months ago, and discharged as cured ten days after operation, already presents the earlier symptoms of the typical course of Kocher's cachexia strumipriva, so that he had to resign his position as shoe-maker, owing to the awkwardness of his hands. Skin and mucous membranes are pale, tongue thick and heavy, speech is muffled, as in case of swollen tonsils; face swollen and puffy, lips thick and prominent. A third case is given where the anæmia is one of the most prominent symptoms, a counting of the globules showing only 2,100,000 to the cubic millimetre.

A fourth case, published by Sick and quoted here, is of surpassing interest as showing the influence of the total extirpation of the gland in childhood. The patient is now 28 years of age, and was operated on at the age of ten years, and presented as early as six months after the operation a noticeable psychical change: "Prior to the operation a cheerful, lively boy, he became remarkably quiet for his age, brooding to himself, taking no part in the play of his companions, though there was then no loss of intellectual power." Now the patient is 28 years of age, and still lives in his native town as an idiotic dwarf. The body is that of a child, the beardless face that of a full grown man, the whole body length measures 50 inches, the head is suitably developed for his age, while the body has remained of a size corresponding to that of a boy of ten years, the limbs and trunk being well proportioned, so that with the exception of the head, the body development seems to have been arrested since the operation. The

face, which has an idiotic expression, is puffed, the lips and lower eyelids especially swollen, the skin and mucous membranes remarkably pale, the skin of the whole body dry, desquamating and thickened by a soft, gelatinous infiltration; hair on the head very sparsely distributed and thin; no trace of beard, and a few isolated hairs on the pubes. Speech is slow and difficult from swelling of the tongue, palate and tonsils. The cicatrix is easily seen on the neck, thyroid gland is entirely deficient, larynx and trachea normal, respiration free, heart's action weak, no enlargement of the spleen or increase of white corpuscles. Another characteristic symptom is present in the highest degree. While sensibility and muscular power are not impaired, the patient can not undertake the simplest work or walk fifty steps. This total incapacity has only developed within the last few years, on leaving school at the age of 14 he was not able to learn a trade or to work in the field, but still he busied himself for many years with knitting, until he finally had to give that up. Intelligence is manifestly deficient. Before and immediately after the operation he was one of the best scholars: now his mental faculties are not as fully developed as those of a boy of ten years; his thinking capacities slow and feeble; his answers to the most simple questions are correct but very slow, his manner uniformly serious and devoid of all sentiment. Vision and hearing are also impaired.

We have as prominent features in this case, which is the first to show the influence of eighteen years' deprivation of the thyroid in a growing child, the arrest of physical and intellectual growth, symptoms which show a close relation between cachexia strumipriva and cretinism.

How can we explain the connection between cachexia appearing under the form of a cretinoid condition, with characteristic puffiness of the face, alteration of the skin, weakness and sluggishness of the bodily movements, with unimpaired muscular power, and finally, impaired mental activity? Unfortunately, we must have recourse to hypothesis if we wish to explain it at all, as we have no definite knowledge of the function of this part.

The appearance of the cachexia is independent of the kind of goitre, of the injury done during the operation, the amount of hemorrhage, the manner of healing, and of

any discoverable disease of the organs, and is analogous to the cachexia resulting after disappearance of a goitre from iodine treatment. All observers agree that the cachexia only appears *after total extirpation of the gland*, and is constantly wanting after partial removal, or where there is an accessory thyroid. This forces upon us the supposition that the cachexia must be occasioned by the loss of some function proper to this organ.

The accepted theory as to the nature of this function is that the thyroid belongs to the "blood-glands" and takes part in the regeneration of the blood. Although this theory is not proven in any sense, it will most easily explain the cachexia after extirpation; we should always, however, premise that it does not functionate in this manner like the spleen and bone-marrow, as these should then take on vicarious action after its removal, yet in no case has there been splenic enlargement or leucæmia. This fact is the more to be regarded, since in the familiar experiments of Crede in the extirpation of the spleen, the latter arrived at the conclusion that the blood-forming function of the gland is assumed vicariously by the thyroid gland when the spleen is removed, for in every case during the first four months after splenectomy there was noted a doughy, painful swelling of the thyroid gland, which receded with the return of the blood to its normal composition.

The author considers it most probable that the gland exercises a direct or indirect influence on the composition of the blood, either in the way of absorbing and assimilating certain materials whose accumulation in the blood would prove deleterious, or in the way of preparing certain principles, which after entering the blood become indispensable to the nutrition of the nervous system, which theory would explain the gradual and progressive character of the symptoms which develop weeks and months after the extirpation of the goitre. Other authors regard the gland as the regulator of cerebral circulation, and the anæmia caused by its removal as the cause of the swelling, pallor, lassitude etc., but the anæmia is often the last symptom to appear in the characteristic picture of the cachexia. Others again would make the symptoms depend on a stenosis of the trachea, and consequent interference with respiration and hematosiis, yet the stenosis,

when previously present, disappears spontaneously after operation.

The experiments made on animals have shown that they do not long survive the excision of the thyroid, but present similar symptoms to those met with in man, death resulting after disturbance of motion and sensibility, apathy and somnolence. From these experiments Schiff, Zesas and Wagner believe that the thyroid is in some way connected with the nutrition of the central nervous system, perhaps in preparing some needed ingredient of the blood, or in removing deleterious principles.

In conclusion, the author calls attention to a fact which may have suggested itself to some of you, and is well worthy of further study, namely the close analogy between cachexia strumipriva and a disease occurring spontaneously and described by English and French authors under the names cretinoid state (Gull), myxœdema (Ord), myxœdema or cachexia pachydermatique (Charcot), which presents a most remarkable similarity to the clinical history of our cachexia in every detail. In myxœdema the typical symptoms are also waxy pallor and swelling of the skin, a firm œdema, dryness and scaling of the skin, swelling of the tongue and oral mucous membrane, marked cachexia, sluggish movements, apathy, slowness of speech, gradual failure of mental brightness, and occasionally an idiotic expression. The analogy is very much strengthened by the observation of some authors that almost complete atrophy of the thyroid accompanies these symptoms, while others look upon *the diminution in the size of the gland as a pathognomonic symptom*. It has not yet been determined whether involution of the gland is a primary or secondary symptom. If found to be primary, *the results after operative removal of the gland would be found to correspond exactly with the symptoms of its spontaneous involution*.

Practically we may draw these conclusions: that PARTIAL extirpation of the thyroid yields very favorable results, and should be more frequently resorted to; that it should only be undertaken when examination has shown that a part of the tumor can be left behind, and that it has been sufficiently proven that TOTAL extirpation of the thyroid gland is to be stricken from the list of physiologically justifiable operations.

DISCUSSION.

DR. EICHBERG remarked that it was of interest to present this description to-night, for it was the first published account of a

large series of experiments upon human subjects. The pathological condition known as myxoedema was first described by Ord and Gull, and subsequent investigation showed that the condition was in all respects the same as that resulting from the removal of the thyroid gland.

DR. MARSH said that from the paper just read there appeared to be a strong resemblance between the manifestations arising in the subject after extirpation of the thyroid body and the condition of cretinism endemic in those mountainous districts of Europe where goitre is common. It is well known that this state of cretinism is marked by malnutrition and stunted mental development; very commonly there is perverted structure of the bones about the base of the skull. These pathological states have generally been regarded as a result of the inherent tendency of the disease.

From the effects, as shown by the essayist, of the extirpation of the thyroid body, the speaker inquired if it might not be fair to regard the goitre as the main cause of the accompanying cretinism. Though the gland is enlarged in these cases it may be reasonable to suppose that its function is altered or perhaps destroyed. Of course this supposition would necessitate some difference between goitre in the cretin districts and other cases which are not subject to the phenomena of cretinism.

DR. TAYLOR reported that he had applied the hydrochlorate of coraine to the cervix uteri in two cases of his hospital practice, producing satisfactory anæsthesia.

ACADEMY OF MEDICINE.

Meeting of October 20, 1884.

W. H. WENNING, M.D., G. A. FACKLER, M.D.,

Pres't in the Chair.

Secretary.

Inflammation of the Pharynx.

DISCUSSION.

DR. NICKLES said that pharyngitis was proposed for discussion because it well illustrates the general characters of inflammation, its symptomatology, aetiology, local and general therapy. His remarks were intended to apply chiefly to the most frequent form of inflammation, acute catarrhal pharyngitis.

In respect to symptoms he said that the local manifestations of the affection are so well marked and evident, that no tyro in medicine could go astray in the diagnosis.

The mucous membrane of the pharynx is seen to be reddened and swollen. Sometimes these symptoms are diffused, sometimes circumscribed, and they vary greatly in intensity. Pain occurs whenever the inflamed parts are moved, and then may be very severe. But when the affected parts are at rest, there is little spontaneous pain, although sometimes complaint is made of distress in the ears and at the angles of the lower jaw. Generally the act of swallowing is attended with much pain. Often the mucous membrane at first presents a dry, glazed appearance, but very soon increased secretion takes place, and the visible parts become covered with mucus or muco-pus.

Thus the disease presents three of the classical phenomena of inflammation, redness, swelling, and pain. As in all inflammations, exudation takes place. But increased heat is not observed, because the temperature of the part can be no higher than that of the blood, and if fever be absent, can not become markedly elevated.

General febrile symptoms may or may not be present, depending upon the extent and intensity of the inflammation, and upon its cause. When the disease occurs epidemically, the fever is usually severe for several days, even when the local symptoms are mild. Not unfrequently the temperature becomes elevated to 104° F. In children marked disorder of the nervous system not rarely occurs, especially eclamptic attacks.

The aetiology of the disease is exceedingly multiform, and embraces all the conditions which cause inflammation, mechanical, chemical, and infectious. Perhaps the most frequent cause is exposure to cold. It is not necessary that cold should act upon the whole surface of the body, as when one becomes thoroughly chilled after prolonged physical exertion, but local chilling, especially of the back part of the neck, is sufficient to excite the disease in persons predisposed to it. How chilling of the surface of the body produces internal inflammations, as pharyngitis, coryza, bronchitis, etc., is not yet thoroughly understood. Rossbach lately investigated experimentally what effect the external application of cold produces upon the tracheal mucous membrane, and found that there takes place immediately a reflex spasm of the bloodvessels, with marked anæmia, which is followed in a few min-

utes by venous hyperæmia and increased secretion of mucus.

Pharyngitis is caused, though less frequently, by the directly opposite cause, intense heat, as when a very hot liquid is swallowed, or hot vapors are inhaled. Various chemical poisons may produce the affection, as the concentrated mineral acids, corrosive alkalies, when they come in contact with the mucous membrane.

Certain medicines taken internally occasionally cause pharyngitis, as iodide of potassium, mercury, arsenic, antimony, and perhaps belladonna. The disease is usually present in measles and scarlatina, and often in small-pox and typhoid fever. It also occurs epidemically. In the latter cases the disease is doubtless produced by micro-organisms, but not when it results from the action of carrosives, from cold, or from mechanical causes.

The treatment of pharyngitis will depend upon the cause of the disease, and the severity of the local and general symptoms. Most cases naturally terminate in from four to fourteen days, even when left alone. But even in such cases much may be done to ameliorate the symptoms and to hasten the termination. As all cases are not attended with general symptoms; we may first direct attention to the local treatment applicable to all cases.

Rest of the inflamed parts is of the highest importance. Hence speaking should be forbidden, and swallowing restricted as much as possible. In the first stage of the inflammation cold may be applied in order to diminish the supply of blood to the inflamed part. Possibly cold may to some extent contract also the inflamed vessels. But it is almost impossible to apply cold in such a manner as to exert a powerful effect. Various methods have been resorted to, inhaling very cold air, constantly holding bits of ice in the mouth and swallowing the cold water, and the application of atomized ice-water for ten or fifteen minutes every one or two hours.

Cold has also been applied externally, but it is not easy to understand how its contact with the skin of the neck can have any effect upon the pharyngeal vessels.

In the later stage of the disease the application of cold is less useful and is not so well borne. Then more comfort is obtained from atomized warm water, and from very dilute solutions of common salt. Now, too, astringent medicines become

applicable. Tannic acid, alum, and nitrate of silver are most frequently employed. They should not be used too concentrated. A one or two per cent. solution of alum, a solution of tannin of the same strength, and a solution of nitrate of silver containing from one-half a grain to one grain to the ounce, are most useful. The atomized solutions may be inhaled for about ten minutes, and the process be repeated every two or three hours. When much pain is present, tannic acid should be preferred to the other astringents, since it possesses very decided anæsthetic properties.

Is it possible to modify the inflammatory process by medicines given internally? We know that bronchitis may be modified by chloride of ammonium, aqua ammoniæ, ipecacuanha, hydrochlorate of apomorphia, tartrate of antimony, and alkalies. Many physicians hold that chlorate of potassium acts similarly, not only in bronchitis, but also in pharyngitis. So far as the tracheal mucous membrane is concerned, it has been found in experiments on animals that alkalies lessen hyperæmia and diminish the secretion of mucus. It is likely that they will produce the same effects in inflammation of the pharyngeal mucous membrane. Chlorate of potassium, it is now well known, exerts a very remarkable influence over certain forms of inflammation and ulceration of the buccal and nasal mucous membrane. Doubtless it acts similarly on the pharynx. It has been recommended very strongly even in the treatment of diphtheria. Some competent physicians, however, say they have never observed undoubted benefit in the latter disease, while they strongly recommend it in ulcerative affections of the mouth, especially in mercurial stomatitis.

As this remedy is so much used, and as it doubtless possesses strongly marked powers both for good and evil, a few words about it may be appropriate.

Soon after the discovery of chlorate of potassium in the last century, it was held that this salt would readily undergo decomposition in the blood and give off its oxygen. Hence it was employed in affections which might be benefitted by this property, as syphilis, scurvy, diabetes, etc. In some diseases it displayed undoubted therapeutic value, especially in mercurial stomatitis and other inflammatory and ulcerative affections of the mouth. But the the-

ory that it gives off oxygen in the blood soon fell to the ground. Even so early as 1824 Wohler found the salt unchanged in the urine of a dog to which he had given a drachm.

In 1831 O'Shaunessy asserted that chlorate of potassium is not decomposed in the blood. This, however, was apparently completely proved by Isambert in 1856. He was able to detect the undecomposed salt in the saliva, urine, tears, sweat, nasal mucus, and faeces. He found that it is rapidly absorbed, and in a few minutes appears in various secretions, and that traces of it may be detected in the urine after 36 hours and sometimes after 48 hours. Rabuteau also detected the unchanged salt in the urine and hence concluded that as such it is completely eliminated. He failed to recover the whole quantity from the urine, but accounted for the deficit by the loss occurring in the saliva, and the errors incident to the method of testing. In consequence of these and numerous other confirmatory experiments by competent observers, the text-books of the day state that chlorate of potassium does not give off oxygen in the body and is eliminated unchanged. But late experiments have conclusively shown that the original theory was in part true, and that the salt does indeed readily give off some of its oxygen in the blood. And the numerous cases of poisoning from very large doses, 35 of which have been reported, also prove that it acts upon the blood in the same manner as other oxidizing agents.

In 1873 Binz announced that fresh pus is capable of reducing the chlorate, and in 1879 he asserted, after careful experiments, that pus, yeast, and fibrin, especially when putrifying, deprive the salt of its oxygen. Hence he concluded that it is partly reduced in ulcerative diseases of the mouth, and produces curative effects by giving off oxygen in the nascent state.

In 1876 Jaederholm discovered that methæmoglobin is found when chlorate of potassium acts upon the blood, the salt thus influencing the latter in the same manner as permanganate of potassium, though slower. In various cases of poisoning the same change was found to have occurred in the living body.

In a long series of experiments with chlorate of potassium, made in 1883 by Dr. J. von Mering, the following was found: Chlorate of potassium suffers a

partial reduction in the blood. The quantity reduced depends chiefly upon the quantity in the blood, larger quantities being reduced after large doses than after small ones. It increases the elimination of water and urea.

Blood treated with chlorate of potassium is more rapidly altered in the presence of large quantities of carbonic acid, than small quantities. Accumulation of carbonic acid in the blood, but not in sufficient amount to produce death, greatly increases the destructive action of the salt. Diminution of the alkalinity of the blood also hastens the change of the hæmoglobin by chlorate of potassium. It follows that this medicine is most dangerous when the blood is surcharged with carbonic acid, as in diseases attended with dyspnoea and cyanosis, and in those in which its alkalinity is lessened, as in fevers. On account of the rapid absorption of chlorate of potassium, large doses should never be given on an empty stomach, but only after meals. During the presence of fever and dyspnoea it should be given very cautiously. In cases of valvular disease with ruptured compensation, and in kidney diseases, retention of the salt may take place and cause disastrous effects.

From the foregoing it seems very probable that chlorate of potassium may undergo quite rapid reduction in the inflamed tissue of pharyngitis and stomatitis, since it has been shown (Ewald) that in the blood of inflamed tissues the tension of the carbonic acid is three times greater than in the normal tissues (from 15 to 20 vols. per cent.)

The single dose of chlorate of potassium for adults should never exceed thirty grains, and the daily quantity should not be more than two drachms. Children one year of age should not receive more in the day than 15 grains. From the age of 2 to 10 years the daily dose should not exceed from 30 to 45 grains, and from 10 to 14 years, not more than one drachm (Mering).

Excessive doses may produce very disastrous effects. It is not improbable that many cases of death from diphtheria were in reality cases of medicinal poisoning. Very large quantities of chlorate of potassium may produce obstinate vomiting profuse diarrhoea, intense dyspnoea with cyanosis, and great cardiac debility, followed in a few hours by death. Dissolution of the blood is then the direct cause of the fatal

termination. Examined soon after death, the blood presents a chocolate brown color, but the organs, especially the kidneys, show little alteration.

Should, however, the patient survive for several days and not succumb rapidly from the alteration of the red blood—corpuscles, he will usually perish in consequence of the supervention of uræmia. The detritus resulting from the destruction of the hæmoglobin accumulates in the tubules of the kidneys to such an extent as more or less completely to impede the exit of the urine. Only small quantities of very dark urine are voided and sometimes none at all. Diarrhœa and vomiting take place, the skin becomes sallow and presents here and there greyish violet spots, and the liver and spleen are found enlarged. Delirium, coma, and convulsions generally supervene before death. During this fatal illness the patient complains of pain in the abdomen and lumbar regions, headache, oppression of the chest, difficulty of breathing, and great prostration.

Rarely is general treatment required in acute catarrhal pharyngitis. If, however, there be present high fever, certain authorities hold that medicines should be given to reduce the temperature. Quinine, salicylate of sodium and aconite have been most frequently used. Their utility may well be questioned. The fever in a few days subsides spontaneously. It never becomes a source of danger, and hence does not require special attention. Aside from their antipyretic action, however, these remedies have been supposed to exert a special influence over the inflammatory process. All of them in large doses markedly affect the heart's action, in consequence of which the blood pressure becomes reduced. It seems reasonable that in the earliest stages of an inflammation a marked reduction of the amount of blood flowing to the hyperæmic part may diminish exudation and cause a more rapid restoration of the inflamed tissues. Should, therefore, aconite be given in such doses as will notably slow and weaken the heart's action, some result might be expected. It is, however more than doubtful whether any influence can be exerted on the inflamed tissues by the small doses usually given. After the inflammation has become well advanced, only harm can result from its use.

Quinine in large doses when fever is present might be expected to be useful, es-

pecially when the disease occurs in epidemic form. It is doubtful whether it could exert any notable antiseptic power. If not, it would be useless, since it would be unnecessary to reduce a harmless fever which in a few days would subside spontaneously. Since Binz found in experiments on frogs that quinine in large quantities will arrest the amoeboid movements of the white blood corpuscles, several authors have assumed and asserted that this remedy will in man arrest inflammation and retard or arrest suppuration. There is no clinical evidence that it possesses this power, perhaps because the doses which can be safely used in man are too small. The quantity necessary in man, corresponding to the quantity required in frogs, would be about 45 grains every three hours.

Dr. WHITTAKER said that he was prepared to hear the previous speaker plead cold as a frequent cause of pharyngitis. He did not, however, gather from his remarks a satisfactory explanation of the action of cold, nor did he from any author derive such a simple explanation as mycotic origin. It certainly does follow a cold, but this fact does not establish cold as a cause. Croupous pneumonia was formerly attributed to cold, yet, when a large number of cases are analyzed, the fewest number are found to even follow exposure to cold. Another disease, tuberculosis, was always attributed to cold, and scarcely a case existed in which it was not paraded as the cause.

We do not mean to deny that cold has an influence in exciting an attack of a disease already present. Quinsy has always been believed to be mycotic, as also influenza.

Scarcely any patients annoy us more than those who suffer repeated or recurring attacks of pharyngitis. Some cases are aborted, but many continue for 1-2 weeks and no known remedy will cut them short. Scarification is useless. The speaker is averse to making incisions except when the presence of pus is evident.

If we study the action of remedies in this disease, we must place in the first rank, chlorate of potassium. If the fetor is relieved it is due to the nascent chlorine, which is perhaps the most effective antimycotic, except fire. Another drug is the muriate of ammonia, whose beneficial action may be also attributed to the chlorine. Speaker has never seen a case of quinsy

clearly cut short by any method of treatment, perhaps because the cause of the disease is out of reach.

There are certain diseases of the throat in which the surface is attacked and breaks down, to permit the poison to enter the blood. Here we must endeavor to find a remedy which will condense the parts and thus create a barrier to check the invasion. The persulphate of iron is such a remedy in diphtheria. Until he gets some rational explanation of the action of cold, the speaker will prefer to believe pharyngitis a mycosis rather than a simple catarrh.

No better explanation has been given of the localization of disease under the action of cold, than the celebrated "*locus minoris resistentiæ*." This is simply a paraphrase. No one thinks now of "stopping the pores." Such different affections as paralysis agitans and cerebro spinal meningitis were said to follow cold.

There is no doubt that the time will come when cold will occupy the same place in pharyngitis as it does now in rheumatism, that is—no place at all. When physicians become as content as the people to accept "cold" as the cause of disease, they can contribute just as much as the people to the progress of medicine, and no more.

Dr. THRASHER stated that the etiology and symptomatology of acute pharyngitis, simply involving the mucous membrane and of that attacking the follicles differ decidedly. The course and certainly their treatment are different.

As causes, cold, mycosis, and that analogous to erysipelas have been mentioned. It is certainly much easier to laugh at cold than to prove that it is not a factor in the cause. It is easy to say it is *post hoc*, yet many patients can exactly tell us in which condition of the atmosphere they will take cold. Certain people are more liable to inflammation of certain tissues than others. Why not call these localities the *locus minoris resistentiæ*? It was said that the nervous theory was not true. Yet we can point to a nervous connection in cases of long-standing dyspepsia, which in the majority of cases is attended by a pharyngitis, and in which any exacerbation of the primary disease in the stomach will be followed by a similar change in the throat.

The treatment which has been advised in acute cases seems to me rather singular.

Cold is announced as a cause of the disease and is applied for its relief.

We are told that it is due to a parasite and nothing will cut it short; that the disease runs a certain course and then subsides. The methods of treatment employed are also peculiar. How can cold water be inhaled?

Gargling with cold water is a rough measure, and will prevent a proper rest to the parts. If cold is desired, ice-cream may be given. Whether it is of advantage is doubtful. Chlorate of potassium is about as bad a thing as can be used; it is annoying and painful, and tends rather to increase the disease. It is said to cause a disappearance of the fetor. It is true; so will water or any other cleansing liquid. Other means are more efficacious and not liable to such objections.

If a mild astringent be employed, it is irritating. A two per cent. solution of nitrate of silver is much more irritating than a twenty-five per cent. solution, and the after effects are not as marked. Internal medication is of no avail in simple catarrhal pharyngitis; but when the temperature is high in follicular pharyngitis, running up to 102° F. or even 104° F., and the febrile symptoms are pretty general, and the symptoms unpleasant, a cold bath or sponging may be ordered.

Small doses of aconite, frequently repeated, I cannot but think to be of advantage, since during its use the skin grows moist and the temperature will fall. This, however, may also occur when plenty of water, or nothing whatever is given.

In catarrhal inflammation of the throat, absolutely nothing is required. In the follicular variety, marked results follow the application of the stick nitrate. As a rule it will tend to shorten the process. Scarification is beneficial when suppuration is taking place.

VALERIAN IN THE TREATMENT OF SUPERFICIAL WOUNDS—At a recent meeting of the Société de Biologie, M. Arragon brought forward a new method of dressing wounds, by which, he declared, their healing was hastened and the pain was made to disappear at once. The method consisted in the application of compresses wet with a decoction of valerian.

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Cincinnati, November 22, 1884.

The Week.

CINCINNATI MEDICAL SOCIETY.—Dr. B. P. Goode will read a paper on the "Treatment of Diphtheria," at the next meeting, Tuesday evening, November 25th.

ACADEMY OF MEDICINE.—At the next meeting of the Academy, Monday, Nov. 24th, Dr. P. S. Conner will read a paper on "Fusiform Aneurism of the Femoral treated by Ligation of the Common Iliac."

The cholera in Paris, owing to the favorable weather, is decreasing and now the death rate is about fifty per day. It has, however, appeared in other places in France and in Spain.

In South America the disease is slowly spreading.

The sanitary condition of Cincinnati is a standing and urgent invitation for it to come here at its earliest convenience.

Drs. Wood and Smith, of Philadelphia, have been called to assume the editorship of the *Therapeutic Gazette*. The journal will be edited in Philadelphia. A department for the consideration of the physiological action of drugs and the therapeutic indications afforded by such action, cannot

be placed in better hands than those of Dr. Wood, who in a sense may be considered the pioneer in this field. **

THE Royal College of Surgeons, of England, will receive nearly a million of dollars from the estate of the late Sir Erasmus Wilson.

A THREATENING EPIDEMIC.—Another full purse has been tapped in the interests of medicine. This time it is in Europe where the late Countess Bose, of Cassel, bequeathed a sum equal to about \$200,000 to the University of Berlin, to be devoted to the interests of poor medical students. Now that this sort of thing has begun, who can predict the area of its contagious influence? The time may be nigh at hand when the struggle for existence can no longer be urged as an excuse on the part of medical colleges for turning adrift on the public incompetent graduates.—*Medical Age*.

This, so soon after Mr. Vanderbilt's contribution to the College of Physicians and Surgeons, New York, indicates symptoms of contagion, and, as the malady is likely to break out in the Central West, notice is hereby given of our readiness to be sacrificed in the good cause by acting as catcher.

Bibliography.

TEXT-BOOK ON MEDICAL JURISPRUDENCE AND TOXICOLOGY. (1)

We lay this volume aside after a careful perusal of its pages with the profound impression that it should be in the hands of every doctor and lawyer. It fully meets the wants of all students of legal medicine. Heretofore many have been deterred from attempting this particular field of enquiry by being confronted by ponderous works of great authors extending over many large octavo volumes. Happily, Dr. Reese has in the work before us avoided the rock on which so many have gone to pieces. He has succeeded admirably in condensing into a handy volume all the essential points and facts in medical jurisprudence and toxicology.

1. By John J. Reese, M.D., Prof. Med. Juris. and Toxicology Univ. Pa. Philada., Blakiston, Son & Co., Cin'ti, Robt. Clarke & Co. Pp. 606, 8vo, cloth. Sent by mail, prepaid, on receipt of price, \$4 00.

ogy, and that, too, in a style so plain and familiar that every line will be well read and thoroughly digested. The chapters on Life Insurance, Medical Malpractice, Insanity, Infanticide, Criminal Abortion, and Medico-Legal investigation are in themselves worth more to the student of law or medicine than ten times the cost of the book. Here is to be found just the knowledge they should possess. The subject of toxicology occupies considerable space, and special attention has been bestowed upon the principal poisons, such as arsenic, strychnine, opium, prussic acid, etc. In these days every professional man who has any regard for his reputation and the interests of the community in which he lives, can no longer afford to be ignorant on these points. Questions are constantly arising before court and jury that can only be settled by an appeal to medical knowledge, and it not unfrequently happens that several branches of the healing art are called into requisition in order to aid the law to arrive at a proper decision. The author's remarks on coroners' inquests, the criminal court, and the examination of experts, are exceedingly well timed. In speaking of professional experts, he advances the opinion that the only true and proper system is for each state to appoint one or more experts who shall be state officers—physicians of thorough training, education and experience in this particular line, who shall devote their time and attention exclusively to this duty, and for which they shall receive adequate compensation. He adds that such an office properly filled, and kept aloof from all political considerations, would be of real benefit to all concerned. In this suggestion all must thoroughly agree with Professor Reese.

THE PRINCIPLES AND PRACTICE OF MIDWIFERY, WITH SOME OF THE DISEASES OF WOMEN. (1)

Dr. Milne is prominent among Scotch obstetricians, and gives evidence in this book of thorough familiarity with the science and literature of his profession as well as good judgment in its practice.

As to the matter of the work we can speak but approvingly, although frequent facetious or sentimental paragraphs do not add at all to the merit of a scientific treatise. But

2. By Alexander Milne, M.D. P. 371. Price \$2 00. Birmingham & Co., New York, 1884.

the defects of the book are in that which is absent rather than in that which is present.

The first edition appeared in 1871, and the second in 1878, and apparently with no later revision we have the new(?) edition bearing date 1884. Consequently we look in vain for any modern views on laparotomy in its various applications. The operations of Porro, Thomas and Muller are not mentioned, antiseptics and antipyretics are unknown, and hot water as a hæmostatic does not appear. With such important deficiencies the book cannot be commended to the profession.

The mechanical execution is poor, the type too small for any medical work, and the wood cuts bad. W. H. T.

TRANSACTIONS OF THE AMERICAN OTOLOGICAL SOCIETY, VOL. 3

The seventeenth annual meeting of the Society convened at the New Grand Hotel, Catskill Mountains, July 15, 1884. A number of interesting papers were presented. Drs. Knapp and Lippincott read papers on mastoid disease and its treatment, which brought about an animated discussion participated in by Drs. Kipp, Theobald, Sexton, Jones, Seely, Andrews and Pooley. Dr. Seely presented a paper on the treatment of suppurative otitis media by jequirity, which by some was thought a rather hazardous plan of treatment. The Association adjourned to meet again in one year. * *

COURIER-REVIEW CALL BOOK AND VISITING LIST. Arranged by E. M. Nelson, M.D. Published by J. H. Chambers & Co., St. Louis.

This a very well arranged book, and belongs to a class that is an imperative necessity to practitioners of medicine.

THE SURGICAL NAIL.—M. Motais, of Angers, presented to the French Association for the Advancement of Science a small instrument having the form of a finger-nail, and intended to cover the end of the finger and the nail. M. Motais has used it in removing axillary ganglia in cases of carcinoma of the breast; it may also be used instead of the rasp in operations on the periosteum, and for removing polypi from the uterus. It is shorter than the similar instrument used by Amussat, coming only to the extremity of the finger.—*Revue Med. Franc. et Etrang.*, October, 11, 1884.—*Medical News*.

Selections.

MEDICINE.

ACUTE RHEUMATISM IN A NEWLY-BORN INFANT TREATED WITH SALICYLATE OF SODA.—Pocock in *Rev. Mens. des Mal de l'E.*

A woman in the eighth month of her pregnancy was taken with acute articular rheumatism, and treated after the third day with salicylate of soda. The rheumatic pain disappeared after thirty hours and labor supervened. The rheumatism ran its course, however, and did not disappear entirely until five weeks afterward. As to the child, less than twelve hours after its birth it was seized with a violent fever and presented a painful swelling, accompanied with redness upon the top of the right shoulder. Salicylate of soda in 25 centigram doses was ordered every two hours, and at the end of 24 hours the temperature had fallen from 40° C. to 38·5°, and the pulse from 170 to 140, the pains had also diminished. The treatment was continued eight days, after which the child appeared to be perfectly well. There was no heart murmur at any time.—*Archives of Pediatrics.*

TREATMENT OF DYSENTERY WITH BISMUTH PER RECTUM.—By F. E. Waxham, M.D., in *Archives of Pediatrics.*

Inflammation of the lower portion of the colon, attended with bloody and mucous discharges, tenesmus, frequent desire to stool, and oftentimes with prolapse of the rectum, may be modified and its course often quickly abridged by the use of bismuth per rectum. Other treatment has always been unsatisfactory in my hands, the cases progressing slowly and often requiring two or three weeks to overcome.

Knowing the good effect of bismuth when administered per orem in the various diseases of the gastro-intestinal tract, and observing the beneficial effect of this remedy when applied locally to abraded surfaces, I was led to believe that it would be equally efficacious in inflammation of the rectum when applied directly to the inflamed surface. This method of treatment has been highly successful, and I feel justified in advising others to adopt it. In very severe cases, opium in some form, preferably the tincture, may be added with benefit.

From ten to twenty grains of bismuth

are administered with mucilage of acacia and water after every evacuation, and if not sufficient in itself to control the frequent stools a little laudanum is added. Recently a child suffering from a severe attack of dysentery, with prolapse of the rectum with every passage, was almost immediately relieved. Within twenty-four hours the character of the passages was entirely changed, the tenesmus and frequent desire to stool relieved, and the prolapse not recurring after the second or third administration. This is only one of many cases where this remedy has been used with gratifying result.

THE RESOLVING ACTION OF CALOMEL IN VERY MINUTE DOSES IN THE TREATMENT OF PNEUMONIA.—The value of this means was suggested to Chapois' (*Bull. Gen. de Thérap.*, July 30, 1884) by his experience with a case of pneumonia in a child twelve years of age, in which blisters, leeching, and other means of treatment had been unavailing. The eighteenth day of the disease had been reached and still resolution had not begun, nor had the fever abated. It then occurred to him to try the administration of calomel, in doses of two milligrams, every hour. Twenty-four hours later the patient was revisited, and was found to have a moist skin and a pulse of eighty per minute. The tongue was also moist and a sub-crepitant *râle redux* could be heard over the affected lung. Recovery followed without interruption. The same treatment was subsequently used by the author in many cases of pneumonia, at all ages, with complete satisfaction. The phenomena which usually follow the use of this agent for twenty-four to forty-eight hours are the following: Moisture of the skin, then of the tongue and the mouth; next a diminution of body heat, and of the sense of oppression. After fifteen or twenty doses have been taken there may be a fluid evacuation of the bowels. The author does not claim that calomel is a specific for pneumonia, and in some cases other remedies will answer equally well. The advantage of the very small doses is that a different end is sought from that which is manifest when purgative doses of calomel are given, the effect of the latter being to prostrate the individual already greatly weakened. Given in such small doses absorption is favored, the salivary glands, the liver, the intestinal, and other

mucous glands, also the glands of the skin, are stimulated, in a word, there is a general derivative action.—*Archives of Pediatrics.*

EFFECTS OF BROMOFORM, BROMETHYL, AND BROMETHYLIN.—Bonome and Mazza, from a series of physiological experiments recently conducted in the laboratory of Professor Albertoni, of the university of Genoa, obtained the following results:

1. Bromoform is a general anæsthetic. Dogs and guinea-pigs almost always show the same symptoms of anæsthesia and muscular relaxation, following inhalation that the human subject does. In five experiments upon men, three were well narcotized, lasting even for a whole hour; in two (probably on account of the use of a defective preparation containing free bromine) there was no narcosis, but on the contrary, irritation of the conjunctiva, a flow of tears, burning in the eye, etc. The narcotic action they believe to be little slower in appearing than when chloroform or ether is used, but the success is apparently the same as with both these valuable anæsthetics.

2. The narcosis obtained from the inhalation of bromoform is free from the stage of exaltation which results from chloroform. On this account preference should be given bromoform if the patient is subject to epilepsy or alcoholism. Billroth and Nussbaum have each directed attention to the danger of exciting fits in epileptics by the use of chloroform.

3. Bromoform does not disturb the respiratory function, but after prolonged narcosis there is slight reduction of the blood-pressure. The respiratory fluctuations of the blood-pressure in the course of the narcosis are very regular; the pulse remains strong. In none of the dogs did bromoform cause sudden arrest of the heart's action, such as is often seen during the use of chloroform.

4. During the bromoform narcosis, while it was noticed in dogs that there was decided mydriasis, in man there occurred only trifling alterations of the pupil; there was neither nausea nor vomiting. The quantity of bromoform required to cause complete narcosis is less than that of chloroform as commonly used.

5. In the first few hours after narcosis, it was noticed that there was a sinking of the temperature exactly as after chloroform, but the patient recovered sooner from its effects.

6. Given by the mouth, bromoform acts as a hypnotic and anæsthetic.

7. Bromoform prevents putrefaction in organic substances as urine and meat. Bacteria are not developed in the presence of bromoform.

8. Injected under the skin, bromoform is fatal when given in a dose of two grains for every three ounces of bodily weight.

Ethyl bromide produces narcosis more quickly than chloroform or bromoform, but is more easily eliminated from the system, and on this account its effects are more temporary. It is to be recommended for short operations. It is less active than bromoform, and becomes poisonous at a point of each 2.25 gr. for 3 ounces of bodily weight. Whilst the narcosis reduces the blood-pressure at first, it rapidly increases again after the termination of the narcosis, when the respiration also is accelerated. Bromide of Ethyl also reduces the irritability of the cerebral cortex, and hinders the development of bacteria in organic infusions.

Ethyl bromide does not produce complete narcosis upon inhalation, but, when pushed, causes death by abolishing cardiac activity.—*Phila. Med. Times.*

REMEDIES FOR ASTHMA.—By John C. Thorowgood, M. D., F. R. C. P., in the *Med. Press and Circular*.—As a matter of careful observation and experience, I find that people, from the high to the low are disposed to regard asthma as a disease to be endured rather than cured. In support of this statement I can bring forward the sayings of paupers in the workhouse, and of more favored people bearing time-honored titles and living in the best part of London. Reflect, however! Are we worse off in our chances of curing asthma than we are in respect to many other chronic diseases? Is epilepsy often cured? Then gout again, "Strange thing," people sometimes say, "that the doctors can find no cure for gout." Pulmonary consumption is not so curable as we could wish, and there are to my present knowledge cases of skin disease which baffle the best therapeutic talent in London and in many large cities. The curative action of drugs is more critically tested in chronic than in acute disease. Diseases of the acute type, such as pneumonia, measles, etc., usually tend to a natural recovery, while with chronic diseases the tendency is

just the other way. Chronic disease slowly grows, as it were, into the very constitution of the patient, so that it appears to be a part of his very being and he gets to regard it as his companion for life, gratefully accepting such remissions as circumstances and the art of the doctor from time to time obtain for him.

Spasmodic asthma, though by no means a dangerous disorder, is most cruel in the way in which it deals with its victims.—Asthmatics are usually persons of ability and strong nervous energy, and often in the midst of daily and successful work are seized upon by the asthma, and after a hard day's work the sufferer has to pass a night sitting up in bed gasping for breath and inhaling all sorts of smoke and vapor to obtain ease for his respiration. In the morning the spasm remits and then comes the routine of daily work, after the preparation of such a night.

Therapeutic experiences in asthma in an interesting form can be obtained from the life histories of some physicians of years long passed away. Floyer, who wrote on asthma in 1717, and who seems to have known almost as much of the nature and mechanism of asthma as we do now, was a great sufferer. His medicines were chiefly of the evacuant class; of anti-spasmodics he does not appear to have had a very high opinion. General Gent, on the other hand, who in 1802 introduced the use of stramonium smoke as a means of relief for his asthma, believed in its anti-spasmodic power as formerly, and resorted to it so freely that he is said to have fallen a victim to it.

An intimate knowledge of pathology does not appear necessary or essential to guide us in the selection of a remedy for asthma. When we review the large number of remedies which find and maintain a good repute with the public for the relief of the asthmatic fit, such as Himrod's powder, Joy's cigarettes, Huggin's ozone paper, and the like, we do not find the inventors of these much-prized remedies to be men distinguished in pathological research.

Nevertheless it will help us in choosing a medicine to bear in mind that asthma is a spasm of the bronchial muscles surrounding the smaller air tubes, with simultaneous congestion of the bronchial mucous membrane. The expiratory character of the dyspnea in the case of old asthmatics with rounded chests should also be borne in

mind. Very often such a patient will volunteer the statement that the difficulty is to get the air out of, not into the chest. Sometimes we see spasmodic asthma come distinctly as a secondary affection upon bronchitis. This may be called bronchitic asthma.

I briefly indicate these distinctions inasmuch as they bear on the matter of remedies for asthma with which our present purpose lies. The climatic treatment of spasmodic asthma can soon be disposed of. In the purely spasmodic form of the complaint, where the patient goes to bed in excellent health and is taken about three or four in the morning with sudden constriction of the chest, so that he has to sit up with his head bent down on his knees and gasp for breath, the best advice to give him is to tell him when he comes to a place where he finds he can sleep peacefully all night, to stay there, for it is notorious that the finding of a climate for these cases is a matter of pure experiment. Many curious tales are told of the vagaries of asthma in seizing severely upon one asthmatic in the very spot where another is rejoicing at having escaped from his harrassing enemy. Dr. Birkett relates the curious case of two asthmatics, one of whom could only breathe in London and the other in Norwood. If they attempted to go, the one to Norwood and the other to London, they were both stopped on the journey by asthma, and, very curiously, both stopped at the same spot, Camberwell Green.

Individuals whose asthmatic seizures are caused by or associated with irritative bronchitis have their line of climatic treatment more definitely marked out, for I believe I am correct in saying cases of bronchitic asthma will do well and find their lives lengthened and more enjoyable in a mild and equitable climate and an air that is not dry and exciting. Torquay, Bournemouth, Ventor and Hastings are good resorts, especially during the autumn and spring months.

I have heard of a patient who was attacked by a severe bronchitis and much spasm during a bad London fog. He got no relief till he went to St Leonards, where the soothing air relieved the spasmodic state of the bronchial muscles, enabling them to act rhythmically and clear the lungs of a large quantity of dark, sooty colored matter, after which recovery went on rapidly.

When we seek to relieve the urgent dyspnea by inhalations we generally use those substances that have been found to act locally as relaxors of spasms. Chloroform cautiously employed is pre-eminently useful in giving prompt relief to the asthmatic fit. It is superior to and less dangerous than the nitrite of amyl, but there is danger of the patient becoming too fond of the chloroform, for the way in which I have seen chloroform consumed by asthmatic men and women has more than once caused me serious alarm and apprehension. If nitrite of amyl be employed, two or three drops should be inhaled from lint, and if the breathing be noted as becoming deeper and slower it will show the inhalation likely to relieve before long.

Iodide of ethyl, or iodic ether, was introduced as a remedy for asthma in 1870 by Mr. Huette. Our experience of its use in spasmodic asthma in hospital has been favorable. Six or eight drops of the iodic ether may be inhaled from a piece of lint held in the palm of the hand. A former clinical assistant was able to detect the presence of iodine in the expectoration and also in the urine of those who had inhaled the iodic ether. In the dyspnea met with in fibroid phthisis and in old-standing bronchitis, the iodic ether certainly is beneficial.

In the case of A. E., æt. 16, from Tunbridge Wells, we found the attacks of asthma decidedly relieved and their frequency decidedly diminished by the inhalation of ten drops of iodic ether as soon as the breath difficulty commenced. The cough was also relieved and expectoration facilitated.

The note speaks of nitrate of pilocarpine gr. 1-24th, lobelia and citrate of caffeine, given internally not appearing to afford an amount of relief equal to that given by the iodide of ethyl.

Of internal remedies I am bound to speak well of caffeine usually given in the form of what is known as citrate of caffeine, though chemists say there is no definite combination between the citric acid and caffeine. Dr. Fowler, of Wakefield, first drew my attention, to this citrate of caffeine in 1878 on account of its marvellously curative action in his own case after the failure of an immense number of remedies. The citrate is best given in dose of 1 to 5 grains dissolved in warm coffee, and it very seldom fails to give relief to the

asthmatic paroxysm. We want more investigation as to the mode of action of caffeine. M. Leblond says it regulates the heart, augments its force, promotes diuresis, and is safer and more certain in action than digitalis. In poisonous dose it is said to paralyze the medulla. While I find much said in English and French works on the value of caffeine in cardiac dropsy, I do not find anywhere mention made of its great power in relieving asthma. I have heard of as much as sixty grains of citrate of caffeine, taken by mistake, producing muscular tremors, vomiting and rather alarming symptoms, which were relieved by digitalis. The only case in which I have actually seen serious symptoms follow on the use of caffeine, was in the case of a young medical man, who had severe attacks of dyspnea, resembling asthma. To him I gave one grain of citrate of caffeine, the effect was at once to relieve his breathing, and he was rejoiced at the speedy action of the medicine; but soon there came on a most deadly faintness from which he was with difficulty restored. At the time one could not help thinking the caffeine might have been the cause of this faintness, but more extended observation of this case showed me that without warning very alarming fits of syncope at times attacked this patient, and I heard that he eventually died in one of these seizures. The case was one of those that now and then come under notice as cases of asthma, but which are really indications of profound nervous lesion. Curious to say that three cases of nervous dyspnoea, that have thus come under my notice have all been in the cases of medical men. Two died and one is yet alive, but hemiplegic on right side.

The second edition of Dr. Hyde Salter's work on asthma was published in 1868, and I have vainly looked in it for mention of arsenious acid as a remedy for asthma. In 1869, among out-patients at this hospital, I accomplished some striking and durable cures of bronchitic asthma by means of arsenic in the form of 2 or 3 minims of Fowler's solution.

Arsenical preparations give vigour and support to the respiration, and enable people to ascend mountains without confessing the toil by a single sigh; hence one judges that in many forms of asthma arsenical medicines may prove advantageous.

One case taken from several will give the

indications for arsenic. Feb. 12, 1883.—C. W., æt. 14, has been asthmatic from the age of 2 years. He coughs violently, and when the asthma takes him his lower chest is drawn in. Tongue large, throat congested. Pulse 88. Respiration harsh and loud. Heart normal. At Kimberley, near the Orange River, he was quite free from asthma. He was ordered twice daily 2 minims of Fowler's solution with 2 grains of iodide of potassium in water. On March 19th I heard that he had not required any medicine for the last fourteen days, and seemed perfectly cured. The liquor sodæ arseniatis is a preparation that may be given with much hopefulness in bronchial and bronchitic asthma. I have never seen any unpleasant effects follow on the employment of arsenic, but when there is hæmoptysis and weakness of the heart I have found it fail to give relief. I wish time would allow me to enlarge upon the effects of arsenic eating, for they are curious.

At Salzburg Arsenic Works the men who stand the fumes best eat arsenic daily with their food.

A gentleman who came to learn assaying at the age of 17 years was advised to eat a bit of arsenious acid every day to enable him to bear the exposure to the vapour. He continued the practice up to the age of 50. Twice (said he) I tried to give up my arsenic, but on each occasion I experienced faintness, sweating, loss of sleep, and violent palpitation of the heart. Inflammation of the lungs followed; I was laid up for nine weeks, and should have died had I not returned to my arsenic." Arsenic-smoking in a pipe is known as the Chinese remedy for asthma. Cauvin (*Lancet*, 1861), reports the case of an asthmatic lady, who in an experience of twenty-five years found no remedy equal to $\frac{1}{4}$ of a grain of arsenious acid three or four times a day, mixed in a stramonium cigarette.

I pass over many remedies for asthma, well known to most, to mention a few one that we have recently been employing—the *Euphorbia Pilulifera* from Australia. A decoction of the dried plant is made in the proportion of $\frac{1}{2}$ oz. to Oj. of water, and when cool 100 mm. of spirit of chloroform are added. Of this decoction the patient takes a wineglassful three times in the day. When it does not agree you may expect depression and faintness to show

themselves. In bronchitic asthma, with emphysematous lungs, the euphorbia seems of some service. I have notes of four cases in which we have tried it. In the case of Georgina M., æt. 20, living in London, and for three months an in-patient at the Middlesex Hospital on account of extremely severe paroxysms of asthma, with tendency to congestion of lungs, we found, for a time, the euphorbia of service, while caffeine, belladonna, and an immense number of other medicines, including iodide of potassium in 15-grain doses, had no curative effect whatever. Emily K., æt. 32, from a marshy part of Essex, was twice in Victoria Park Hospital for bronchitic asthma, with occasional paroxysms of severe dyspnoea, when she turns livid in the face. The euphorbia certainly answered well here. It kept off the asthma, while the cough and muco-purulent expectoration diminished under its employment. It did more good than any other medicine, and she left the hospital on December 29, 1883, very much relieved.

James B., æt. 40, with bronchitic asthma and tendency to congestion of lungs, was admitted October, 1883. He said he had taken every remedy that he had seen advertised for the cure of asthma. Euphorbia suited him and gave relief, he did not seem equal to a combination of iodide of potassium and carbonate of ammonium. His asthma and bronchitis were of nine years' duration, due to cold taken in his employment as a coachman.

These are cases, met with in persons advanced in years, where the chest is round and barrel-shaped: it is extra resonant on percussion, and this resonance extends very low down in the chest, giving the impression that the diaphragm does not move up and down as it ought to do. The diaphragm is mechanically pressed downwards by the over-distended lungs, and cannot rise to attain its proper position in expiration. A line or zone of congested capillary vessels can sometimes be traced on the skin along the line of attachment of the diaphragm. It is in very confirmed cases that I have noticed this sign present.

On auscultation we scarcely hear any inspiratory sound. The lungs are so distended that but little air can be taken in with inspiration. With this stagnant condition of respiration the patient complains much of coldness in his extremities, his lips and nose look dark and congested,

and his general condition is one of dullness and apathy. At intervals the bronchial muscle is thrown into a state of rigid spasm, and thus attacks of asthma come on, and greatly distress the patient. Ordinary expectorants and sedatives are of very little use as remedies in this form of asthma, but I have seen much good done by liquor strychniæ or pills of extract of nux vomica. The liquor may be given in doses of three to five drops, with dilute phosphoric or hydrochloric acid. In cases where respiration is much prolonged, and expectoration of phlegm difficult, I have seen much good done by the strychnia and the nux vomica.

In the case of a patient lately under my care, with barrel-shaped, almost circular, chest, and frequent asthmatic seizures, we were able, in consultation with Dr. Cayley, to try the effect of the inspiration of compressed air from Waldenberg's spirometer. The benefit was slight, and the trial of expiration into rarefied air of no benefit whatever. Subsequently I learned that the inspiration of oxygen gas had proved useful, but what did more good than anything else was going through a course of severe manipulation at the hands of a celebrated Swedish practitioner. The abdominal muscles were well rubbed and shampooed, and thus their action as muscles of expiration was roused and stimulated. The diaphragm also was powerfully brought into play, with the result of curing the asthmatic seizures and bringing improved appetite and increased vigor to the circulation, so that the patient felt warm and cheerful.

Of the treatment of hay asthma and summer catarrh I have not much to say. The pollen of grasses and of flowers appears to be the cause of this complaint, and various respirators have been invented to protect the nostrils against the invasion of the pollen. A snuff, made by rubbing well together twenty or thirty grains of iodide of sulphur and 200 grains of powdered liquorice root, has seemed to me decidedly of service in some cases. The powder must be made as fine and impalpable as possible, and then a little of it may be snuffed into the nostrils. Gargling the throat and bathing the nostrils and eyes with a very weak solution of potassium permanganate in water is often very comforting. It is well to commence with five drops of the B.P. solution of the perman-

ganate in a tumblerful of water, and the strength can be increased by degrees.

Of internal remedies I believe belladonna to be the best when the defluxion from the mucous surfaces is very profuse and distressing. From three to six mm. of the succus belladonnæ should be taken in water every four hours, and such experience as I have had of this remedy has been certainly encouraging.

THE ACTION OF THE SULPHATE OF QUINIA ON THE BLOOD.—By Hobart A. Hare, M.D., in *Medical Times*.—While it is generally agreed that quinia instantly stops the migration of the white blood-corpuscle on the stage of the microscope, it has been argued by many that the drug does not prevent its migration in the body.

For the purpose of coming to some definite conclusion in regard to what the action of the drug really was, I carried on four series of experiments, using twelve Cohnheim frogs in each series.

In order to provoke migration, I used the point of a hot needle, which was applied and instantly withdrawn.

As all results would be negative unless the blood-vessels observed were of the same general size in every case, I never watched an arteriole over three millimetres or less than one and one-half millimetres in diameter, the average diameter of the vessels being in all four series two and a fraction millimetres.

In the first series I counted the migration from the vessels when there was no inflammation and no drug present. I found that in twelve frogs the migration in thirty minutes only averaged three.

In the next series, in which I caused inflammation in the manner stated, I found that in twelve frogs the migration in thirty minutes averaged twenty-nine.

In the third series, to which I gave ten grains of the quinia hypodermically, the migration averaged 1.4 in thirty minutes.

In the fourth series, where I caused inflammation and gave ten grains of quinia hypodermically, the migration did not take place at all in five of the frogs, two corpuscles migrated from two of the frogs, and from the other five only one migrated in thirty minutes, so that the average was virtually none at all.

These series would prove that the corpuscles are stopped in their migratory movements by the drug, at any rate in

regard to passing through the wall of the blood-vessel.

Whether the drug does this by a direct action on the corpuscle or not is another question.

To discover in what way the drug stopped the migration,—that is, whether the corpuscle itself was influenced, or whether the blood-vessel wall was acted on,—I instituted the following observations:

Causing inflammation and administering the drug, I noticed that the corpuscles stopped at the irritated point and congregated, but did not pass through the wall as they did when there was no drug but simply inflammation present; and *this* difference existed, viz., that where inflammation was alone present the walls were dilated and therefore thinner, but where the drug was present also the walls were contracted. This contraction could not only be seen by the eye, but was marked by the use of the eye-piece micrometer.

To cause this contraction the drug must act either on the vaso-motor system or the muscular coat of the blood-vessel wall.

In order to see if the contraction of the blood-vessels was due to centric vaso-motor stimulation, I made a section of a frog's spinal cord high up and found the contraction was still present, and in another frog, to whom quinia was given after section was made, the contraction took place. This proves that the action is not centric. The only remaining action which it could have is on the peripheral vaso-motors or the muscular fibres in the vessel walls. According to Prof. H. C. Wood, atropia in toxic doses probably paralyzes the muscular coat. I therefore gave a frog one-sixtieth of a grain of atropia, and saw an arteriole dilate, thus proving one-sixtieth of a grain of atropia to be a toxic dose to the frog. Another frog was taken, inflammation caused, quinia given, then atropia, and the contraction caused by the quinia remained. This would seem to prove peripheral stimulation; but this is not at all tenable, for if atropia paralyzes the muscular fibres, the stimulated peripheral endings could not cause contraction.

The only explanation seems to be that the quinia acted on the fibres themselves to such an extent that it antagonized the atropia.

My observations in regard to the effect which section of the cord would have on

vaso-motor contraction are directly opposed to those of Jerusalemky, who asserts that the contraction is not present after section is made. Schroff found that in the cinchonized animal neither galvanization of a sensory nerve nor asphyxia produced contraction, claiming with Jerusalemky that there was paralysis of the whole vaso-motor system, as I understand them. Heubach found *no* paralyzant action of this kind when he used galvanization of a sensory nerve. To prove, then, that quinia has no paralyzant action of this kind, I took a frog and strapped him to the frog-plate by placing a very strong and tense rubber band over the windpipe, and in order to prevent his using his skin as a means of respiration, I allowed it to become dry. On examining his mesentery, I found *no* paralysis present at all, and the arterioles evidently very much contracted, as if by the action of the stimulated vaso-motors combined with a direct action of the drug on the muscular coat. It therefore seems proven to me that the drug does not paralyze the vaso-motors either peripherally or centrally, and probably has no action on them at all, unless it be *perhaps* very slight stimulation, which I doubt, any contraction of the vessel being due to the action of the drug on the muscular coat. It seems to be decided that quinia does also decrease the heart-power, as nearly all observers agree in this respect,—that is, in toxic doses.

I shall consider therefore proven,—

1st. That the sulphate of quinia does not cause paralysis of the vaso-motors.

2d. That the contraction, when the sulphate was administered during inflammation, was produced by a direct action on the muscular coat of the blood-vessel, and was independent of any vaso-motor action.

3d. That the drug does prevent the migration of the white blood corpuscle in the body, particularly when inflammation is present.

4th. That this stoppage of migration is due not to any action on the corpuscle itself, but to the contraction of the muscular coat and the decreased heart-power. Because if you have a dilated vessel you must have a thin wall, and if you have a strong heart you have both the *vis a tergo* of the circulation and also the decreased resistance of the wall in so thin a state, and consequently the corpuscles migrate readily.

If you give a drug which causes both decrease in that heart-power and contraction of that inflamed blood-vessel, you no longer have that *vis a tergo* so strong, nor the doors of migration so wide open. Briquet, A. Eulenberg, and Schlockow have all shown that large doses of quinia depress the heart and cause its stoppage in diastole. In two frogs' hearts which I immersed in a solution of quinia I also got stoppage in a very short time in diastole. It seems rather difficult to reconcile the two facts that quinia should have such a depressing action on the heart-muscle, which, though striated, is virtually involuntary, and yet seem to have a stimulative action on the non-striated muscular fibres in the blood-vessel walls. No explanation can be offered of this other than there being some depressing action on the heart's contained ganglia.

Bonour, Arvedi, Baldwin, Melier, Monneret, and Magendie state that the blood after death from toxic doses of quinia is dark, defibrinated, and non-coagulable. Briquet, on the other hand, states that it is not as the others state, but just the contrary.

Taking three rabbits, I gave them three different doses respectively, as follows: to the first, one hundred and twenty grains,

hypodermically; to the second, one hundred grains; and to the third, seventy-five grains.

In every case the blood clotted very rapidly and firmly in the vessel it was caught in, and there was a clot in the soft, flabby heart.

It may be well to state that the temperature of the surrounding atmosphere during the observation of the frog's mesentery was never allowed to vary more than five degrees Fahr. The observations were always made at the same time of day, and the frog was thrown away after his mesentery had been exposed thirty minutes, as diapedesis was set up after that time by the abnormal exposure of the parts. The water used to keep the mesentery clean was of uniform temperature also. The rabbits were young and healthy, and were kept in a room of good size, with plenty of food, light, and air.

IMPOTENCE IN THE MALE.—Dr. Hammond, of New York, has employed the following with satisfactory results:

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HORLICK'S DRY EXTRACT OF MALT—BEST IN USE.

Original Articles.

DIABETES.

By J. S. HALDEMAN, Zanesville, O.

Having been appointed to produce an essay upon this subject, at the October session of 1884 of the Zanesville Medical Society, to be read at the ensuing November session. I will now endeavor to do so, and thereby clear myself of any charge of negligence, or medical malfeasance.

I believe the earliest reference to diabetes as a disease is to be found in the writings of Celsus, who was born in the latter end of the reign of Augustus. He stated that it consists in an inordinate accumulation of the urine, causing great emaciation, and imperiling life. Afterwards, however, the disease was considered at much greater length, and thoroughness by Aretus and Galen. The former was a Cappadocian,—and resident physician of Rome, living it is supposed, at the period between the reigns of Vespasian and Adrian. The latter was born at Pergamus, Asia Minor, in the year 131. Aretus, I believe, has the accredited honor of first naming it diabetes,—and the name was generally adopted in his time.

The word is of Greek origin, composed of the two words *dia*—through, and *baino*—to go, which mean when united to pass through, and is the passing through of the liquid ingesta, and of the fluid constituent of the body into the urine. Aretus claimed that the seat of the disease was in the stomach. But Galen advocated that the diuresis, the inordinate flow of urine, was a disease of the kidney, which attracted thither the fluid drank, and excreted it unchanged. Galen's theory was entertained by almost all the physicians of antiquity, and of the middle ages, and even later; only a few adhered to Aretus's doctrine, that of an original affection of the stomach. In the meantime Zaculus Lusitanus attempted to combine the two theories, to-wit: that both the stomach and the kidneys were at fault. An entirely different aspect of the disease was broached by Paracelsus, a physician, who flourished in Basle, Switzerland, at the close of the thirteenth century, and the first half of the fourteenth. He viewed it as an abnormal formation of salt in the body, whereby the kidneys were incited to greater activity. Sylvius, a fellow countryman of Paracelsus, but being

born 121 years after him, regarded the disease as a morbid condition of the blood. It was he who argued so strenuously in the fifteenth century, the fanciful hypothesis, which at that time attracted much notice, referring all diseases to chemical changes, producing an excess of acid or alkali.

However, on and after this sometime, up to the middle of the seventeenth century, the then medical world had no suspicion that the urine in an abnormal condition might contain sugar. Therefore, it seemed exceedingly problematical whether the affection denominated diabetes, was really diabetes mellitus—honey urine. It might have been or it might not have been. Some cases, doubtless had been non-saccharine, or diabetes insipidus. It may not be uninteresting then, to trace the history of both for a moment.

Before the discovery of sugar in the urine, *i. e.* known to the time of Thomas Willis in 1670, it was impossible to distinguish between diabetes mellitus and diabetes insipidus.

All cases of chronic increase, of urinary excretion by physicians, were placed under the general name of diabetes. Doubtless, the difference of their progress and results had attracted their attention; and yet, long after the time of Thomas Willis, no distinction was made relative to the different forms of the disease. So far as the presence or absence of sugar in the urine was concerned. There were two reasons for this; first, from the fact that a knowledge of the discovery, was not widely disseminated among physicians; and secondly, from the fact, that they were ignorant of the importance and necessity of sugar in the animal economy. Therefore they failed to value its relation and bearing. Michael Etmuller, ten years later, professor of Botany, and also extraordinary professor of Surgery and Anatomy in the University of Leipsic, broached this theory, and boldly advocated two forms of diabetes,—the true and the false; in the first he maintained that the fluids swallowed were supposed to pass through, and to be excreted unchanged from the body; in the latter, he thought and promulgated that a liquifaction of the tissues of the body took place, causing the excreted fluid to exceed the ingested amount. This Etmuller theory was entertained for nearly a century by the most prominent medical writers, such as Borsieri, Vogle, Vosterdick, Schacht,

and others. Now, during this period, the presence of sugar in urine was either not alluded to, or was deemed only of minor importance. About this time, an opinion obtained, that chyle was discovered to exist in the urine, and that its presence gave it a sweetish taste.

Michael Darwin, who was born 1731, and received his education at Cambridge and Edinburgh, and afterward settled in Litchfield and Derby, plying his profession, that of medicine, in the localities named, during the latter half of the eighteenth century, with others, held this view, and named it diabetes chylosus. About this time Francis Sauvages, a french physician, of considerable notoriety, who became so from publications emanating from his pen, termed *Nouvelles Classes des Maladies*, proclaimed the fact of the excretion of sweet urine, to be a special form of diabetes. We can then, with considerable certainty of date, state that at the end of this century—the eighteenth—the presence of sugar in the urine was assumed as the only basis of classification; and that diabetes was divided into *mellitus* (verus), and *insipidus* (spurius). For this we are indebted to Cullen, and to P. Frank. Since that time pathologists have universally acknowledged and endorsed these forms. From the amount of investigations upon this disease, during this period, they finally concentrated themselves upon this focus, diabetes mellitus is a disturbance of nutrition of a particular sort, and is to be considered as an independent disease, running its course with a different train of symptoms; while in diabetes insipidus, great doubt still exists pathologically, because under the term are embraced various conditions which do not appear alike, either in their origin or appearance, or anatomical changes. In the further discussion of the subject I shall solely confine myself to diabetes mellitus.

Having attempted to give a cursory detail of its history and literature, we shall next spend a few thoughts in reference to its etiology. Diabetes mellitus cannot upon the whole, be reckoned as one of the common diseases. In ancient times, and during the middle ages, it was considered quite rare. Modernly, it appears to have become more frequent. This may be owing partly to the fact that we are better able to recognize it, and partly because more attention is paid to it. It occurs in

all parts of the world, and as a matter of course more in some countries than others. It does appear to be greatly influenced by climate. In the West Indies, in Russia, in Holland, and in Brazil, it is hardly known. Then in Ceylon, in Thuringia, in Wittemberg, in Normandy, and in the agricultural countries of England, it is exceedingly abundant.

In England, from reports we glean from 1848 to 1855, the average deaths annually were 420 in a population of 36,000,000; this would make a mortality of 1 to every 86,000.

In Ireland, in a population of 8,000,000, the annual death average was 118. According to Dickinson, there occurred in England and Wales in ten years, from 1861 to 1870, one death to every 3509 inhabitants, and to every 632 deaths from all causes, and in Scotland 1 to every 4895 persons, and to every 916 deaths from all causes.

In New York, according to G. M. Smith during three years and a quarter, 58 deaths from diabetes occurred in a general mortality of 80,016.

Heredity, no doubt, is a predisposing cause of a great many cases of diabetes. This is evinced in the occurrence of several cases in the same family. One, or both of the parents may be found troubled with it, or it may be traced back still more remotely among relations. Marsh tells of a family, although not from personal observation, in which the disease was transmitted even to the fourth generation. Griesinger in 1859, in a collation of cases, found only three that the patients or fellow children were diabetic, and knew of only two other cases in medical literature. Seegen had observed eight cases out of 140 up to the year 1870, in which the father or mother was diabetic, while in ten cases the fellow children were affected. R. Schmitz observed 22 cases out of 104, from 1868 to 1874.

The disease has been found in connection with epilepsy. Griesinger met with one case. Lockhart Clark gives an account of one case. Seegen, Zimmer, Schmitz, and others make statements of the coexistence of the two diseases, and also mental impairments, such as melancholia, etc. Seegen and Betz give cases in which man and wife were affected with diabetes mellitus, and in consequence the latter, Betz, endeavored to predicate an

argument that the disease is infectious. This view however, has not as yet received a very general endorsement by the profession. What developments to enforce such a belief may take place in the future in relation to the contagion or non-contagion of the disease is unknown. Strange things have happened, and still are happening in the worlds cycle, in the various arts and sciences. and the medical department in either has not been, and will not be an exception.

Diabetes mellitus attacks individuals in every period of life. It appears however, that persons in middle life are more subject to it than those in youth, or those in greatly advanced years, say from sixty-five to eighty or ninety years of age. According to tabular statements given by Griesinger and Dickinson, the percentage of cases increases, running from 5 years of age up to 65, after that it decreases again.

In reference to the sexes, males are in the main more subject to it than the females. This is true however only among adults, among children the opposite obtains—more females are attacked than males. In a statement that Griesinger gives of 225 cases, 172 were men and 53 were women. Dickinson makes a statement that in England and Wales 4273 men died of diabetes, and 2223 women. Seegen states that in 140 cases, 100 were men and 40 were women. Prof. Edlefsen, of the Kiel University Polyclinics, stated that out of 30 children under fifteen years of age, eighteen were girls and twelve were boys. We might go on and give still further statistics showing the preponderance of cases of diabetes mellitus among female children as contrasted with the male.

Obesity is also named as one of the predisposing causes. Persons that are corpulent, and appear to have been well nourished, seem more liable to diabetic seizure. Seegen states that 52 cases out of 140, obesity had existed before diabetes took place. Zimmer mentions also that in 28 cases out of 62, the same condition existed.

Among the exciting causes, mechanical injuries stand prominent. Griesinger relates two cases of the kind, and Fischer mentions 17 cases in which sugar appeared in the urine after an injury. Kaemnitz and others state that concussions of the whole body, or of the brain and spinal cord, may give rise to the disease. Concussions of other parts, they affirm do it

more rarely, such as those of the liver or kidneys, occasioned by a blow or fall, disturbing the nerve plexuses, or the true vaso-motor centres, located in the abdomen. Impairment of the nerve centres may be reckoned a cause of diabetes. Especially those of the brain, such as inflammations, degenerations, and softenings. Particularly so, would the development of a tumor after an injury. These impairments are mostly to be found in the medulla oblongata, or in its direct neighborhood. If the morbid centre is somewhat distant, then will the region of the fourth ventricle more than likely be involved, and its nutrition or circulation disturbed.

Psychical impressions are named among the direct causes of the disease. Fright may produce it, or anger, or great anxiety or long continued grief, or solicitude, or protracted and excessive care. Immoderate and prolonged mental strain may do it.

Errors in diet are fruitful predisposing and exciting causes, particularly along protracted indulgence in farinaceous and saccharine food. An exclusive vegetable and starchy diet is most certain in time to generate the ailment. The use of certain drinks doubtless tends in this direction, such as new cider, wine, or beer. After the immoderate use of any of these, an increase of urine is most likely to take place, and sugar as a constituent manifests itself. In reference to the truthfulness of the statement made, of the first article, I know to be true from personal experience. I never can use sweet or new cider, or indulge in the eating excessively of apples, without inciting extraordinary urinary secretions, and consequently a greater frequency in voiding urine. I find I have to check myself in the use of these. And when I do, the superfluous flow and frequency ceases. In my own individual instance I do not pretend to assert that it was anything more than the incipency of diabetes non-saccharine, but if a continuance in the excessive use of it were indulged in, I have no doubt in saying it might result in genuine mellituria.

Exposure to cold or moisture, repeated or otherwise, is classed among the causes of diabetes, and also severe bodily exercise and sexual excesses. This last, no doubt, may be a quite prolific source. And it may also be the sequelæ of the various febrile diseases.

We will now endeavor to spend a few thoughts upon the pathology of the disease.

It generally sets in gradually, but sometimes quite suddenly. It shows itself first by an augmentation of the urinary excretion, and of thirst. It cannot be definitely asserted which of the two symptoms first shows itself. Patients for the most part complain of thirst first. This may be due to the fact that it is the most troublesome symptom. Those cases, generally, where the patient is attacked suddenly, are those caused by an injury or great emotion. In those cases, generally, where they come on gradually, and manifest the leading symptoms named, viz.: great thirst and augmentation of urinary excretions, there are other pre-existing signs, which might properly be denominated pointers; or the introductory stages of the affection, such as an impaired condition of the digestive organs, and also derangements of the nervous system. In reference to the first, there are anorexia, nausea, emesis, pyrosis, flatulency, constipation, etc. And in reference to the latter there are headache, insomnia, and mental disturbances. Not only are the frequent desires of passing urine and great thirst and dryness of the mouth present, but many times visual impairment. As a common thing, the urine in this disease is pale and clear, and does not have the scent of healthy urine, but a vapid, wine-like one, and often leaves whitish spots of grape sugar after it has evaporated on linen or in the chamber pot. The thirst is peculiar, it appears to be insatiable. Incredible amounts of water are drunk, and yet the dryness of the mouth and throat remain the same. The saliva becomes sparse and thick and acid; the teeth and gums become swollen, painful and inflamed. After the disease continues and fully intrinches itself in the system, the appetite improves, and sometimes reaches to a point where it becomes unappeasable. When this obtains, it is somewhat similar to the thirst. After large quantities of food have been consumed, and the appetite apparently satisfied, this state of satiety continues but a very short time, when more food is again craved. This condition of things does not appear to augment the size, weight or strength of the individual, but if any difference, emaciation obtains, and physical weakness. The skin becomes dry and husky. The patient hardly ever inclines to perspire, but, on the contrary, is cold and inclined to shiver. Itchiness of the skin often sets in, furuncular and also carbunc-

ular inflammations show themselves, and gangrene. The breath, too, is peculiar, having an aromatic odor similar to that of apples and fragrant hay. Finally, the tokens of chronic pulmonary consumption set in, and also affections of the kidneys, such as albuminuria, oedema, etc. These symptoms do not progress uninterruptedly to the close of life, they may vary in severity for months and even years, and they may entirely disappear. The improvement or aggravation of the disease depends upon the kind of food used. Farinaceous, saccharine or vegetable food mostly increase the quantity of urine and the amount of sugar in it, and at the same time enhances the suffering. Abstinence from these, or a diet in which animal or albuminous food predominates, will cause the symptoms to abate, or will entirely repress them.

The bearing that febrile diseases have upon diabetic patients is very noteworthy. All of them, to a certain extent, diminish the quantity and saccharinity of the urine. The reason of this is: the sparsity of the amount of food taken, and the escape of sugar and water from the system through other channels than the kidneys, to-wit: through the intestines in diarrhoea; and by exudations, and also, especially the water, by increased cutaneous and pulmonary transpirations. To this view there are exceptions. Pettey states that he saw only a slight decrease in the constituents named in pleurisy, intermittent fever and varioloid.

Pavy, Griesinger, Bamberger and Gerhardt state that typhoid fever does not seem to arrest the secretion of sugar. This discrepancy in the views of eminent authors may arise from the diverse nature of the diabetes itself, and which may explain the variations observed in the same disease. From this consideration, then, the view announced that febrile diseases have a minifying effect upon the secretion of the urine and saccharinity of the same, holds good.

Diabetes may be considered, in general, an incurable disease. A complete and lasting recovery only occurs exceptionally. This is only brought about by the excretion of sugar, and by holding in abeyance the other morbid phenomena for a long time, perhaps for years, by a judicious dieting. Instances are given where many persons have regained their ability to eat vegetables in moderate quantities, ad libitum, and, in some instances, without stint. But, in my

humble opinion, such persons should go on this line "fast, very slowly." It is difficult to speak of a perfect cure, we can only speak of a conditional one.

The post mortem appearance in diabetes mellitus are not always uniform. In some cases no striking visceral alterations are to be seen. Even the microscope, since it has been brought into use, has not always revealed any structural change. True, in some cases there are positive structural alterations, such as lung trouble, hypertrophy of the kidneys, and consequently inflammation. There is also brain trouble, revealed especially in the region of the fourth ventricle, also in the medulla oblongata and cerebellum. Richardson asserts that tumors are to be found there, and extravasations of blood and softenings, and, on microscopic examinations, a wasting of the gray substance, degeneration and striking pigmentation of the ganglionic cells. Luys and Zenker and others assert that fatty degeneration has been found. H. Dickinson describes, as a constant lesion in this disease, and as a peculiar cause of it, a dilatation of the arteries, and of the perivascular spaces in various parts of the brain and spinal cord, particularly in the medulla oblongata and pons varolii, which would seem to lead to the escape of the contents of the vessels and to softening and destruction of the nerve substance." The digestive canal and its accompanying glands show alterations. But then it is exceedingly uncertain whether these are the causes or effects of diabetes. The cadaver shows a high degree of emaciation, excoriation of skin, and ulcers and gangrenous lesions. The muscles are dry, shrunken and pale. The spinal cord has been found congested, as well as softened, in some cases, and then again, in others, indurated. Dickinson mentions a case of dilatation of the central canal in the dorsal and lumbar portions, and a proliferation of the lining epithelium. Changes were also found in the sympathetic nervous system, particularly in its abdominal portion. Duncan says he found the sympathetics of this region three or four times as thick as their normal condition. Percy states that he found the semilunar ganglion and the splanchnic nerves as also the vagus, thickened, and of a cartilaginous hardness. Changes in the coeliac plexus, and destruction of ganglionic cells have been discovered. Lubinoff found sclerosis and atrophy of these cells, and the inferior

ganglia of the trunk of the vagus atrophied and abnormally rich in pigment. The liver has been found involved, hyperæmic, uniformly enlarged, and hypertrophied. In some cases it appears to escape any impairment at all. Diminution of fat in the liver has been discovered, and is of pretty frequent occurrence. Amyloid degeneration sometimes takes place, and formation of abscesses and obliteration of the portal vein. The gall bladder contains greatly inspissated bile.

The spleen is said to be enlarged, with abundance of blood. The pancreas is the opposite—atrophied and degenerated. In the majority of cases the kidneys show morbid alterations. They mostly are large, heavy and full of blood, without textural changes, characteristically hyperæmic, associated with hypertrophy of the epithelium, which may readily be understood to be the result of increased activity of the kidneys. Abscesses may be sometimes found, as in the liver, and also amyloid degeneration and fatty infiltrations. In the sexual organs no derangement has been found, except in the testes, which are occasionally atrophied.

No very great characteristic changes are found in the blood. The data here are not very trustworthy. It has been found abnormally thick and viscid. Serum has been found in excess. Also, fat has been found quite plentifully. To detect this, it need but be agitated with ether. However, the characteristic change in the blood is its being abnormally charged with sugar. The discovery of this is attributed to Ambrosiani. As characteristic as this may be, yet there are cases where no sugar at all was found in the blood. As a rule, about one-eighth as much sugar exists in the blood as in the urine. Sugar has been discovered in almost all the organs, in the secretions and in the exudations, in which it does not exist naturally.

I come now to notice the diagnosis of the disease. Upon this I need not dwell long, from the fact that I have dwelt at considerable length upon its histology, etiology, and pathology. Detection of sugar in the urine is the leading diagnostic symptom. As was before stated, when great and continued thirst, and frequent discharges of large quantities of urine manifest themselves, then we may begin to suspect diabetes, and should not delay to institute a search for sugar. Yea more,

when general lassitude, furunculosis, and the formation of carbuncles, itching of the skin, general painful sensations, especially in the limbs, considered rheumatism for want of a better term, and disturbances of vision. When these obtain and continue, we should become awake to the idea that sugar may be formed, or is forming in the urine. There is no well defined amount of sugar, as yet, given below which we can be assured that it is a case of diabetes. It has however, been found as low as 0.2 per cent. It might not justify to assert that a lower rate would exclude the disease. In searching for sugar in urine, perhaps Trommer's test is as good and convenient as any. It should be examined repeatedly, and too, several hours after eating. For the purpose of making the quantitative calculation of the sugar in the urine, the titrative method of Fehling, or else that of Knapp's, should be employed. The former is by means of an alkaline solution of tartrate of soda and potassa, to which is added a sufficient quantity of copper, and the latter, by means of an alkaline solution of cyanide of mercury of a known strength. The fermentation test has also been used, but is much more inconvenient than that of Fehling's or Knapp's.

The tendency of the disease, in the main, is to become chronic. The period of life has much to do with it. The younger the patient, the more malignant and rapid the course. The usual duration of diabetes extends over a period of several years. According to Griesinger's tabular account of 100 cases, $\frac{3}{4}$ lasted from 6 months to 3 years. It very seldom runs over 10 years. Accounts are given, however, of exceptional cases, where they ran as long as 15 and 16 years. As to the result, the usual one is death. The termination in recovery is entirely discredited by most physicians.

It is needless to say anything, in extenso, in reference to the prognosis of the disease. This is invariably unfavorable.

We come now to the treatment. No advice can be given in reference to prophylactics of a medical character, so that the disease may be headed off. The first thing demanding the attention of the physician, in the treatment, is the reduction of the amount of sugar in the blood. From the fact that most of the disturbances manifesting themselves, and the most danger-

ous ones of them, are attributable to the unnatural excess of saccharinity in the blood. Here the theory of *similia similibus curantur* would not very well suit. The theory is not entertained, at the present day, by medical men of the regular profession; and yet, years ago this sentiment was broached and practiced by Pierry. He advised sugar to be used, with the view to replace the lost sugar in the urinary excretions; and Schiff, proposed giving sugar forming substances to supply the demands of the sugar forming ferments; and in this way limit the formation of sugar in the constituents of the body, if not prevent it altogether.

Prof. H. Senator of Berlin, remarks in his writing upon the treatment of this disease, could we wholly and forever abstract sugar and its formations from the diabetics' food, without doing injury to his nutrition, we should not, indeed, cure the disease, but we could make it entirely harmless. He says we can nearly attain this by replacing vegetable with animal food, which would make it infinitely poorer in hydrocarbons. There is one drawback to this course of procedure, and that is, a repugnance is most likely to take place with the individual to a uniform diet. With him it is meat, meat, meat, morning, noon and night. Raw meat, perhaps would be better, and then far preferable, for the reason that the sugar destroying ferment contained in it would be greater than in the cooked. Being influenced by the foregoing theory, some began to recommend the use of yeast, but had to be given up as ineffectual.

All hydro-carbons, nor all kinds of sugar, in the strict sense of the term, do not act similarly upon the excretion of sugar. It was advocated by Babington and Barlow that every species of vegetable augmented the amount of sugar in the urine of diabetics; as such, green vegetables were named, to wit: cabbage, spinach, certain beets, etc. Such could be indulged in frequently without detriment. Research and experience, in more modern times, corroborate the fact. As a general thing, animal food is to be preferably recommended, and of these that stand in the fore-front, are the mammalia, birds, shell-fish, to wit: oysters, mussels, crabs, etc., and fishes. Then the next in order comes, cheese (the poorer the better) and eggs, of which the white is better than the yellow. Among the vegetables, we would name the greens,

outside of the cabbage and spinach already referred to, such as lettuce, cucumbers, water cresses, asparagus, oyster plant, radishes, together with beets and truffles.

The following vegetables should be avoided, grape sugar, cane sugar, flour and every kind of farinaceous articles, particularly bread, potatoes, pulse, rice, groats, sage, Indian corn, chestnuts, and the like.

It is hard for patients of this class to do without bread, and yet it is one of the most injurious articles of food in this disease, because it contains so much starch (80 per cent. and over). Attempts have been made to make bread freed from starch, called gluten bread, but in vain; traces of it still will be found; dough cannot well be made without starch, and too, the process necessarily employed to rid it of its starch deprives it of its salt, a necessary ingredient. Almond bread has been invented and recommended, composed of egg and almonds. Then again, lichen or moss bread has been recommended. This on account of its cheapness and nutritive qualities, may grow into general use among this class of unfortunates.

It is very proper in treating this disease that a proper discretion be used in the kind of food taken. It should be very lightly surcharged with sugar or other hydrocarbons. It is very patent that there need be no hesitation in drinking plain water, seltz-water, soda water or acidulous drinks. Coffee, tea and chocolate should be disallowed; they contain sugar and sugar-producers. Milk skimmed, or unskimmed, also whey and buttermilk and cream had better be dispensed with. In the same category I would place all alcoholic drinks. I know of some, however, who claim that it cannot do much harm, among whom are Burchardat, Prout, Pavy and Seegar. Koumys is well worthy of a trial, particularly if it is old and free from sugar. It is not best for patients of this kind, troubled with dryness of mouth and thirst, to indulge in drinking unrestrainedly, lest the inclination to pass urine be increased. It is better to take pieces of ice into the mouth and keep them there as long as possible. A particular diet cannot well be laid out to suit every person without deviating therefrom somewhat. The peculiar idiosyncrasy of the patients must be well studied and observed. What might agree perfectly with one might not agree at all with another.

Regard should be had to the care of the skin. Warm baths are very efficient, and mostly agreeable. It prevents dryness and a tendency to eruptions, furuncles, etc. Warm clothing, such as flannels, should be worn to keep up the proper warmth, for there is a great tendency to chilliness and pulmonary trouble. If possible, a mild climate should be chosen for a prolonged residence.

Muscular movements and efforts are almost invaluable. They tend to greatly diminish the excretion of sugar. Long walks ought to be regularly taken, especially where the vocation is of a sedentary kind, and hunting excursions should be frequently indulged in. As a matter of course, bodily exercise should not be of too severe a character, so as to superinduce ennui. Patients who are already very weak and worn out we cannot recommend to such a treatment. Let it not be forgotten that the dieting is the chief feature in the treatment of this affection; medication by drugs is only secondary. The administration of drugs has been very diversified among the various physicians since the time of its first discovery until now. Each one endeavored to apply them, as best he could, to the organ or parts which he considered the seat of the disease. Therefore we find Galen, who thought the kidneys were the seat of the disease, administering astringents, and sudorifics, agents having a specific action upon the liver. These, now-a-days, are looked upon as injurious, unless, it is juniper berries; these still are held in considerable repute. Subsequently, when the stomach was held as the prime seat of the disease, emetics and cathartics were employed. Also, medicines were given to arrest abnormal transformations and fermentation, such as creasote and carbolic acid; or those, to take place of deficient digestive juices, such as rennet, ox-gall, acids, and alkalies. Then, next came the agents to promote the combustion of the sugar, such as oxygen and ozone, peroxide of hydrogen, permanganate of potassa, chlorine, and alkalies. Then, these again were superseded by medicines having an effect upon the nervous system, or upon the circulation of the liver, such as narcotics, strychnine, quinine, and ergot; and in addition, agents were introduced, to take the place of sugar, or "its normal products of metamorphosis in the organism," such as alcohol, lactic acid, glycerine and sugar.

The electric current, and even transfusion, have not failed to receive their commendations. Opium has been used, and somewhat applauded, it is claimed that its continued use lessens the amount of urea and chlorine. Belladonna, cannabis indica, chloral, and calabar, have been found useless. Bromide of potassium has been found beneficial in some, and then again in others useless. The alkalies have been employed with but very slight advantages; these have been marked, as effecting a small reduction of the sugar, and causing eructations; and in this way relieving somewhat, stomach trouble. Better results have been obtained from the use of thermal waters, particularly the "Vichy, Vals, and Karlsbad."

Lactic acid was first recommended by Cantani, with a view of furnishing, in the place of sugar remaining unemployed in the system, a product for its decomposition. It is true that it may stand pre-eminent, or as the only direct substitute for sugar; but we can look for no influence by it, upon the morbid process itself, or its cause, and therefore, it is but erroneous to account it an actual means of cure in diabetes. Upon the same ground, that we could use lactic acid, we might use the fatty acids; oleic, palmitic, stearic, and butyric acids, etc. This is done to a great extent when the glycerides are employed. Cod liver oil has also been brought into requisition, and claimed to have been done so, very beneficially. Arsenic has long been employed by the profession. In some instances its use has diminished the excretion of sugar, and has given valuable service.

To sum up all that has been said of the treatment, we find that it is imperious for the practitioner to regulate the diet of his patient, first and last, and that so long as the proper diet suffices to hold the symptoms in abeyance, we should abstain from the use of any drugs. But if the dietary treatment fails to keep up the strength, or becomes odious, etc., then medication will be imperatively demanded. Tonics of the proper kind must be used, and aromatics, and carminatives; and any, and all constitutional derangements, *wisely and judiciously* prescribed for.

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CONGENITAL ABSENCE OF THE PUPIL AND MALFORMATION OF THE IRIDES.

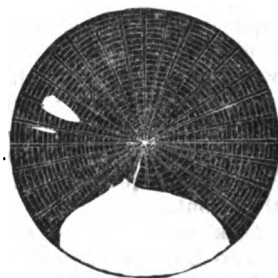
By W. R. AMICK, M.D.,

Professor of Ophthalmology and Otology in the Cincinnati College of Medicine and Surgery.

Emma Beyer will be three years old on the 27th day of next February. She was born with the same condition of the eyes that she presents at the present time. When six weeks old she had a severe attack of smallpox. That the variola had nothing to do with the existing state of affairs we are satisfied for at least two reasons. The first is the statement of the attending accoucheur at Emma's birth, who noticed the peculiar condition of her eyes, and second, it is in the nature of an impossibility for variola to produce such results. When eleven months old she had measles. With the exceptions already given, Emma has enjoyed good health.

An examination of the eyes revealed the following conditions and peculiarities. The color of irides are a light brown. The left

RIGHT EYE.



iris has a pupil in the normal position as regards location. The pupil is not round, but flattened on the inner side by a band extending across this portion of it, apparently dividing it into two parts. This band is more of a dark or slate color than brown, and lies on the anterior capsule, to which it appears to be attached, as well as to the pupillary margins of the iris. This prevents dilatation of the pupil or rather limits it to a very small excursion. The pupil by thus being tied down is rendered myotic. Internal to this band is a small crescent-shaped secondary pupil, which appears to have been formed by the marginal portion of the iris being displaced inwards to form the band already mentioned. This secondary pupil is somewhat enlarged

by the contractions of the radiating fibres of the iris and *vice versa*.

In the inferior and external quadrant of this iris there is an irregular cleft which is entirely different from the ordinary coloboma. In coloboma the base of the triangle is at or in the pupillary area, with the apex at or pointing toward the periphery. In this case the reverse obtains. The base is at the periphery and the apex in the iris about one-third of the distance from the center to the circumference. A few fibres having the same brown pigment as seen in the iris extend from the sclerotic up into the opening. They are narrower than the figure represents them. Through this opening the red reflex from the fundus can be seen with the ophthalmoscope. If this gap extends into the choroid it could not be demonstrated by the examination.

LEFT EYE.



In the right eye there is observed an entirely different condition. Instead of the narrow and pointed-like cleft as seen in the left iris, it is larger, forming an irregular gap. It is located in the inferior portion and includes about two-fifths of both these quadrants. It extends from the circumference more than half way to the center of the iris. From its highest point a brownish slate-colored line extends to a small central spot of the same hue. This line and central point present the appearance as if the superficial portions of the iris were removed from the deeper or basement structure. It partakes somewhat of the appearance of the plastic material that is produced in iritis. In the superior external quadrant is a triangular pupil with the base outward and upward, the apex pointing toward the center. Just below this there is a slit-like fissure, making a pupil like an alligator's in the full noonday light, with the exception that in the animal just named the pupil is vertical while this is horizontal.

The reflex from the fundus is seen through both of these openings.

There is no opening in the center of the iris where the pupil should be, nor do we see any delicate fibrillar bands which we would expect to find in a case of persistent pupillary membrane. On the contrary, we have the iris occupying what should be the area of the pupil. Where the pupillary margin of the iris should be there is a circular band and over this the fibrillation and brown pigment of the iris pass to the small central membrane. This ridge, no doubt, contains the circular fibres of the iris, or some of them at least, and when a strong light was focused upon it with a three-inch plus lens, I imagined that there was a slight contraction. But, as the test was made for this purpose, it may be that the imagination took the place of muscular contraction. The pigment is a little darker in some portions of the area that is surrounded by this ridge. The fibres of the iris can be distinctly seen passing over this ridge up to the central light dot as seen in the figure. The plate does not exactly represent the true condition, as what would be the area of the pupil is lighter, whereas a portion of it should be darker, and the rest of the same color as other portions of the iris. The circular ridge is not represented, but the radiating lines are seen passing over it up to the center.

The large gap in the right iris could not be traced into the choroid. Through this opening the reflex could be seen very readily. The inferior margin of the lens could be mapped out.

Vision in the left eye appears to be normal, as she sees very small objects. Quite frequently when an object was held a few feet in front of her, she would fix immediately with the left eye, and then there would be a series of nystagmic oscillations of the right, and finally it would roll upward, concealing considerable of the upper portion of the cornea, and expose the sclerotic above the margin of the lower eyelid. In this position the large gap in the lower portion of the iris would be turned toward the object, and through it the rays passed to the fovea centralis. It is very evident from the location of the cleft, that when observing an object with both eyes, a decided sursumvergent squint would be seen in the right eye. In this manner sensation was trying to overcome a defect in nature. The rectus superior

contracted and rotated the globe upward until the rays from the object could pass to the proper part of the retina. By so doing both eyes were receiving the rays of light from the same point at the same time.

It might be supposed by some that there was a small opening or pupil where the central light dot is shown in the figure. This action of nature rotating the globe upward, and allowing the rays to pass through the gap in the iris is all that is necessary to disprove such a supposition. If there was an opening at this point, there would be no disposition to turn the eyeball from a natural and easy, to an unnatural and constrained position.

In the remote ages of the past, it was supposed that when a child was born with a deformity of some of the organs, or a mal-position, or a parasite, it was a visitation of divine vengeance, the result of an angry Deity. Again, witchcraft was assigned as the cause. These and other superstitious beliefs were held to be the cause of malformations. Maternal impressions are recognized at present as entering into the cause of certain deformities.

In the case we have presented, the mother assigns as a cause of Emma's misfortune, that during gestation she had considerable anxiety and trouble, and spent a considerable portion of the time in crying and rubbing her eyes, until they became red and congested.

At the same time that we will not deny that a maternal impression during gestation might influence the condition of the eyes, yet we look upon this case as an error in the development of the irides. Whether this error was predisposed by the mental anxiety and weeping, we are agnostic, and simply call it a congenital malformation.

We have reported the case as an anomaly, a freak of nature, where she failed to complete the development of this membrane in the eyes, all of the other organs being normal. So far as we know, this case is unique.

This condition of malformation cannot properly be called coloboma. It is true that coloboma refers to a gap, or fissure or cleft in the iris, yet by the common or accepted usage of the term, we mean that the pupil is continued into the abnormal opening, that the base of the triangular opening shall be formed at the expense of a portion of the pupillary margin of the

iris, and the apex will be at, or point to the periphery.

In the left iris we have the pupil in its normal locality and the cleft below, with a portion of the membrane intervening, thus forming two separate and distinct openings.

In the right eye there is no pupil proper, nor does the gap in the inferior portion of the iris extend to the point where the pupil should be located. In the external and superior quadrant, we have a couple of openings, and if we should consider them as supernumary pupils, then we might call it a case of polycoria. The latter term, however, is generally applied to a persistent pupillary membrane with a number of openings in it.

In this case we have a reversing of the general rule of clefts or gaps in the iris, and in the three principal abnormal openings, the bases are at or toward the circumference, with the apices pointing towards, but not reaching or involving the central portions of the irides. It will be further noticed that the apices are external to the location of the circular or sphincter muscles.

[Emma is becoming the topic of conversation in her part of the city, and is referred to as "the child with the picture of a doll baby in each eye."]

NOTES ON THE METEOROLOGICAL MEDICINE OF CINCINNATI.

BY THOMAS C. MINOR, M.D.,
Cincinnati, O.

FALL DISEASES.—CONTINUED.

As before stated, diarrhoeal disorders prevail during the early part of the fall, but as the season advances and winter approaches, the zymotic exanthematous affections once more appear, often raging with great fatality. The malarial tendency is again manifest, and complicates all varieties of fever. Smallpox, measles and scarlet fever, when prevalent usually assume a serious type, the eruptions often disappearing suddenly, the patient being carried off by some internal complication, as, for instance, pneumonia, bronchitis, nephritis, or convulsions. Diseases of the respiratory apparatus again grow more and more manifest as the equinox approaches, and disorders of the digestive apparatus notably disappear, if we except dysentery, which sometimes prevails, and is often complicated by typhoid symptoms. The death rate from

TABLE X.	Week ending	Deaths from all causes.	Mean week- ly value of Barometer.	Mean week- ly value of Thermom.	Rain, inches, clear.	Principal cause of death.	Class.	Order.
1873	Dec. 6	123	30.21	43°	2.55	Scarlet fever	Zymotic	Miasmatic
	" 13	99	30.15	48°	3.56	Consumption	Constitutional	Tubercular
	" 20	103	30.21	41°	.18	Scarlet fever	Zymotic	Miasmatic
	" 27	109	30.09	34°	.12	do.	do.	do.
1874	Dec. 5	110	30.28	40°	.05	Consumption	Constitutional	Tubercular
	" 12	104	30.19	37°	.51	do.	do.	do.
	" 19	108	30.20	39°	.13	Pneumonia	Local	Respiratory
	" 26	104	30.05	40°	.09	Consumption	Constitutional	Tubercular
1875	Dec. 4	147	30.14	41°	.37	Small pox	Zymotic	Miasmatic
	" 11	136	29.70	46°	.96	do.	do.	do.
	" 18	128	30.14	41°	.37	do.	do.	do.
	" 25	136	30.01	47°	3.89	do.	do.	do.
1876	Dec. 2	85	29.94	28°	.44	Consumption	Constitutional	Tubercular
	" 9	72	30.12	24°	.05	do.	do.	do.
	" 16	89	29.99	30°	.04	do.	do.	do.
	" 23	80	30.08	28°	.12	do.	do.	do.
	" 30	71	30.00	22°	.60	do.	do.	do.
1877	Dec. 1	74	29.91	36°	.85	Consumption	Constitutional	Tubercular
	" 8	76	30.13	39°	1.06	do.	do.	do.
	" 15	69	30.23	46°	—	do.	do.	do.
	" 22	75	30.19	58°	.46	do.	do.	do.
	" 29	69	29.91	53°	1.10	do.	do.	do.
1878	Dec. 7	111	29.95	40°	1.33	Scarlet fever	Zymotic	Miasmatic
	" 14	98	29.99	38°	1.57	do.	do.	do.
	" 21	108	30.22	31°	.72	do.	do.	do.
	" 28	126	30.23	16°	.72	do.	do.	do.
1879	Dec. 6	83	30.10	49°	.73	Consumption	Constitutional	Tubercular
	" 13	75	30.16	42°	1.43	do.	do.	do.
	" 20	98	30.15	36°	.57	do.	do.	do.
	" 27	96	30.18	33°	3.78	do.	do.	do.
1880	Dec. 4	111	30.00	39°	3.23	Pneumonia	Local	Respiratory
	" 11	103	30.34	27°	.90	Consumption	Constitutional	Tubercular
	" 18	123	29.91	42°	.09	do.	do.	do.
	" 25	82	30.23	32°	.69	do.	do.	do.
1881	Dec. 3	100	30.25	47°	.14	Consumption	Constitutional	Tubercular
	" 10	110	30.26	45°	.11	do.	do.	do.
	" 17	96	30.32	44°	1.88	do.	do.	do.
	" 24	95	30.07	47°	2.94	Small-pox	Zymotic	Miasmatic
	" 31	110	29.95	41°	.67	Consumption	Constitutional	Tubercular
1882	Dec. 2	97	30.17	36°	.43	Consumption	Constitutional	Tubercular
	" 9	107	30.26	29°	1.25	Pneumonia	Local	Respiratory
	" 16	112	30.09	31°	.13	Consumption	Constitutional	Tubercular
	" 23	121	30.02	37°	.97	Scarlet fever	Zymotic	Miasmatic
	" 30	106	30.31	38°	.03	Consumption	Constitutional	Tubercular
1883	Dec. 1	96	30.27	45°	.44	Pneumonia	Local	Respiratory
	" 8	100	30.23	46°	.03	Consumption	Constitutional	Tubercular
	" 15	91	30.24	41°	.05	do.	do.	do.
	" 22	91	30.20	27°	.38	do.	do.	do.
	" 29	89	30.04	38°	.45	do.	do.	do.

TABLE XII.	Week ending	Deaths from all causes.	Mean week- ly value of Barometer.	Mean week- ly value of Thermom.	Rain, inches, — — — clear.	Principal cause of death.	Class.	Order.
1874	Feb. 7	97	30.26	34°	1.11	Scarlet fever	Zymotic	Miasmatic
	" 14	107	30.04	41°	.82	do.	do.	do.
	" 21	94	29.99	44°	3.17	do.	do.	do.
	" 28	104	30.28	36°	.81	do.	do.	do.
1875	Feb. 6	106	30.27	23°	.32	Pneumonia	Local	Respiratory
	" 13	105	30.21	17°	.61	Consumption	Constitutional	Tubercular
	" 20	96	30.16	23°	.27	do.	do.	do.
	" 27	124	29.98	42°	.66	Pneumonia	Local	Respiratory
1876	Feb. 5	127	30.21	27°	.98	Small-pox	Zymotic	Miasmatic
	" 12	175	30.04	50°	1.16	do.	do.	do.
	" 19	143	29.98	38°	.58	do.	do.	do.
	" 26	118	30.09	40°	.07	do.	do.	do.
1877	Feb. 3	75	30.18	48°	.28	Consumption	Constitutional	Tubercular
	" 10	89	30.10	40°	—	do.	do.	do.
	" 17	109	30.29	39°	—	do.	do.	do.
	" 24	96	29.87	41°	.39	do.	do.	do.
1878	Feb. 2	88	29.92	35°	1.71	Consumption	Constitutional	Tubercular
	" 9	84	29.85	38°	1.11	do.	do.	do.
	" 16	63	29.86	40°	.19	do.	do.	do.
	" 23	80	29.80	46°	.93	do.	do.	do.
1879	Feb. 1	116	30.18	42°	.42	Consumption	Constitutional	Tubercular
	" 8	89	30.11	37°	1.02	Scarlet fever	Zymotic	Miasmatic
	" 15	110	30.17	30°	.32	do.	do.	do.
	" 22	103	30.20	31°	.80	do.	do.	do.
1880	Feb. 7	70	30.23	31°	.36	Consumption	Constitutional	Tubercular
	" 14	75	30.02	44°	2.40	do.	do.	do.
	" 21	78	30.28	42°	.78	do.	do.	do.
	" 28	93	29.87	55°	.94	do.	do.	do.
1881	Feb. 5	90	30.33	26°	1.52	Consumption	Constitutional	Tubercular
	" 12	109	29.97	44°	3.52	Pneumonia	Local	Respiratory
	" 19	102	30.30	34°	.80	Consumption	Constitutional	Tubercular
	" 26	117	30.12	42°	.02	do.	do.	do.
1882	Feb. 4	100	30.10	35°	.37	Small-pox	Zymotic	Miasmatic
	" 11	117	30.14	49°	.61	do.	do.	do.
	" 18	110	30.20	51°	2.45	do.	do.	do.
	" 25	122	30.17	39°	3.31	do.	do.	do.
1883	Feb. 3	114	30.14	39°	.38	Consumption	Constitutional	Tubercular
	" 10	119	30.40	30°	4.85	do.	do.	do.
	" 17	145	30.15	46°	2.00	do.	do.	do.
	" 24	93	30.29	38°	1.08	do.	do.	do.
1884	Feb. 2	97	30.17	43°	.11	Consumption	Constitutional	Tubercular
	" 9	80	30.07	49°	.69	do.	do.	do.
	" 16	97	30.20	41°	1.97	Pneumonia	Local	Respiratory
	" 23	95	30.01	40°	1.81	Consumption	Constitutional	Tubercular

consumption and heart disease is notably increased during the fall as compared with summer. In the latter portion of the season the mucous membranes of the respiratory apparatus and of the skin seem especially liable to undergo pathological changes.

Let us now turn to the consideration of the diseases of winter.

WINTER DISEASES.

The accompanying tables will exhibit the meteorological changes observable in winter in Cincinnati, together with the principal causes of death in that season. In winter the pathological changes determined by a low temperature are very clearly marked, the parenchymatous organs being attacked rather than the intestinal organs, and diseases of the respiratory system are common, while diseases of the digestive apparatus almost disappear. Pneumonia, bronchitis, pleurisy and consumption are very ordinary causes of death, the attacks of disease on the thoracic organs at this season are usually sudden, a severe chill being quickly followed by an extremely elevated temperature. The tongue is heavily coated and dry, the bowels constipated, the kidneys inactive, the urine very scanty and high colored; intense headache is ordinarily present, with a decided tendency to delirium. When bronchitis comes on it is very apt to run into pneumonia if not carefully watched, and the pneumonia is likewise liable to become complicated by pleuritic effusions. The malarial symptoms noted in the spring and fall seem to give way to typhoid symptoms, and deaths from what is called typhoid pneumonia are not rare, for typhoid fever is very prevalent at this season of the year, being especially fatal in December. Convalescence from typhoid in winter is usually more rapid in favorable cases than at other seasons. Rheumatism prevails in winter, and is often found associated with heart complications. The zymotic diseases, especially smallpox and scarlet fever, when present, are very fatal at this season.

The fevers complicating the diseases of winter in this latitude may best be combatted by remedies having an effect on the heart, as for instance, aconite, digitalis and veratrum, in addition to the use of brisk purgatives, which should be given freely and in full doses at the onset of the febrile manifestations. When convalescence commences no tonics need be administered

as the process of assimilation and digestion is very rapid when a low temperature prevails. Feed a convalescing patient rich, liquid food in winter, as, for instance, beef soups, cream, milk, and delicately prepared varieties of starchy food, little or no medicine being required at such periods. Children having measles, scarlet fever or smallpox should be carefully guarded against cold, as it is complicating disorders, such as nephritis and pneumonia which are most often the real causes of death in such cases, the child convalescing being exposed to too low temperature and suffering relapse, during which pathological changes occur in the lung or kidney.

July is usually the most unhealthy month in Cincinnati, and the injurious effects of warm weather are less easily avoided by the masses than those of cold weather. Flannels should be worn in this latitude for at least eight months of the year, *i.e.*, from the 1st of October to the 1st of June.

In the case of children under five years of age flannel should be worn during the entire year, and, it is especially important that the abdominal organs of infants be thus protected in summer. The writer has known of cases of chronic diarrhoea in children which, failing to yield to medical treatment, were promptly relieved by the application of an old fashioned *flannel belly band*.

Persons subject to rheumatism, gout, Bright's disease and attacks of bronchitis should also wear woollens at all seasons, on account of the liability to sudden meteorological changes.

In Cincinnati we learn to fully appreciate the difference between the clear bracing atmosphere of a dry cold January morning, and the warm moist atmosphere following a thunderstorm on a July night. We learn to love the warm dry days of May, the more we despise the cold moist days of December. In a city where the annual range of temperature is more than a hundred degrees, one learns to admire the beauty of extremes. With a thermometer marking 22° below zero at one time and 105° above at another, the Miami Valley may yet become the Paradise of the medical meteorologist.

[CONCLUDED.]

The LANCET AND CLINIC and OBSTETRIC GAZETTE to one address one year for \$5.00

Society Reports.

ACADEMY OF MEDICINE.

Meeting of October 27, 1884.

W. H. WENNING, M.D., G. A. FACKLER, M.D.,
Pres't in the Chair. Secretary.

Dr. WHITTAKER reported the following case of

Carcinoma of the Stomach.

The speaker was called to see a patient, a young man 33 years of age, who for a number of years had been ill with symptoms of gastric catarrh, with its attending symptoms,—dyspepsia, pain, vomiting of mucous material, eructations.

The patient had consulted various physicians in this city and in New York, and obtained various opinions. During his recent stay in New York he fell away rapidly. When the speaker saw the patient he was extremely emaciated and correspondingly feeble. He was unable to stand without support; ankles were œdematous. The sensorium was clear, lungs and heart normal. The stomach was mapped out without difficulty on account of the emaciation. It formed a tumor, tympanitic on superficial, and dull on deep percussion. Fluctuation in it was distinct. Upon deep pressure, pulsation was noticeable; the pulsation was not expansile, and was evidently communicated from the aorta below. The case sprung the difficult question of diagnosis between gastric ulcer, cancer and catarrh.

The age of the patient seemed to preclude cancer, but bespeak ulcer. Patient had, however, never vomited blood, nor complained of acute or severe pain. The pain which at times manifested itself was reduced to a minimum by diet. There had been no remission in the steady progress of the disease, and none in the emaciation.

The symptoms present undoubtedly pointed to a cancer.

Externally no tumor could be felt, yet the gastrectasia and persistent vomiting indicated pyloric occlusion. The emesis which had formerly been excessive, had ceased for a week, on account of the profound debility. The patient objects to the introduction of the stomach-pump. He was tested in various positions, but no tumor could be discovered until he was seated in a chair, leaning forward with his

knees drawn up; then a distinct tumor, the size of a walnut, was detected in the region of the pylorus. The speaker was loth to make a diagnosis of carcinoma, since none of the previous attendants had pronounced it such. The physician in attendance had regarded it a neurosis, an obstinate gastralgia. The patient died within two or three days, suddenly, probably from a marantic heart thrombus. A post-mortem could not be obtained.

The arguments in favor of the correctness of the diagnosis were the occlusion of the pylorus, the pain, more or less severe according to the diet, the dilatation of the stomach, with distinct sense of fluctuation afforded by its fluid contents, and finally, the walnut sized tumor, detected by placing the patient in the position above described. The arguments to disprove the diagnosis, were the absence of blood-vomiting, and the age of the patient; neither of supreme importance in the exclusion of cancer.

Cancer occurs most frequently between the ages of forty and seventy; but also, exceptionally, at every age. Congenital cases have been observed. Wilkinson, Cullingham, and Wiedenhofer have observed it in young children, with at times general implication of other organs.

The point of greatest interest is the etiology of the disease. We are thoroughly familiar with the fact that carcinoma begins in the epithelial structures. The question now agitated is, may it not result from simple gastric catarrh? Virchow maintains that he has seen every phase of a transition stage between catarrh and cancer, and modern pathologists are more and more inclined to adopt the local origin of cancer.

Cancer of the stomach is notoriously frequent in Suabia and Normandy, where the diet is crude and coarse, though in Egypt, according to Griesinger, it is rare, notwithstanding the great frequency of gastric catarrh.

That cancer often develops about the cicatrix of a gastric ulcer has long been known, but it is far more important for us to know that catarrh may be its cause, because catarrh is, strictly speaking, amenable to cure. Such a view of the genesis of cancer would give us over it at least preventative control.

In illustration of the difficulty in making a differential diagnosis, the speaker referred to the case of a young man, aged 28,

who showed unmistakable occlusion of the pylorus with persistent vomiting, and progressive emaciation; where no tumor could be felt even in the knee elbow position. He felt compelled to look upon the occlusion as the result of cicatrization after a gastric ulcer. The patient, almost *in extremis*, was operated upon by his colleague Dr. Ransohoff, as a concession to his plea for a chance of life. He died upon the table, where it was seen that the pylorus was occluded by a scirrhus that had developed chiefly internally and had fastened the whole pylorus inaccessibly high up under the liver and ribs.

The speaker observed a case in Opholzer's clinic in which the stomach had been dislocated to the bottom of the abdominal cavity, and was only recognized after the administration of tartaric acid and bi-carbonate of sodium, by whose effervescence the tumor became palpable and visible.

In palpating the tumor we must often be content with a sense of resistance, whereby we are often mistaken by feeling the contracted rectus abdominis.

Where the cancer is diffuse along the anterior wall and there is no, or but little, pyloric occlusion, the diagnosis is of course still more difficult, as emaciation in these cases is slow in setting in, and perhaps does not develop at all. He has seen individuals of obesity maintain their adipose tissue pretty much throughout the disease. The speaker closed his report by dwelling upon the value of placing the patient in different positions in bed and out of it, in the effort to discover the tumor, and by emphasizing the value of the view that cancer of the stomach may develop from a long continued, neglected, or continually aggravated gastric catarrh.

Gastro-Enterostomy.

DR. JOSEPH RANSOHOFF observed that the case with which Dr. Whittaker had connected his name was one of exceptional interest. The patient was only 34 years old, and had enjoyed excellent health to within one year of his death. Gastric symptoms had supervened with increasing severity up to the time of his admission to the hospital. The most marked subjective symptom was the vomiting which could not be in any way controlled. The pain was of only moderate severity and usually ceased when the stomach was empty. When the patient entered the hospital he was extremely emaciated. Physical ex-

amination revealed nothing but the dilated stomach, which, could when filled with fluid, be felt as a fluctuating (*Schwappen-Gefühl*) mass occupying most of the upper portion of the abdomen. Repeated examinations in varying postures failed to elicit the presence of a tumor, or even of an increased resistance in the epigastrium. For this reason, the diagnosis of benign stricture of the pylorus with or without ulceration was made, while the presence of malignant disease could not be positively excluded. As a *dernier* resort, frequent washing of the stomach was resorted to for about one week, in the hope that this remedy which is of so much service in catarrhal conditions of this viscus, might be of some service. The hopes entertained from it were not realized. The vomiting continued unabated, and the strength of the patient visibly diminished. For this reason a laparotomy was determined upon with the view of excising the pylorus. Previous to the operation the stomach was freely washed out.

Operation, April 12th.—When the peritoneal cavity was opened by the oblique incision recommended by Billroth, the distended stomach was at once encountered, and when drawn down presented in the pylorus a very characteristic malignant deposit. This involved the entire circumference of the pylorus, and measured along its lower margin not more than one and one-half inches; whereas, along its upper margin it involved the lesser curvature of the stomach. The tumor measured here about two inches in length; a nodule the size of a small pecan could be felt in the lesser omentum. The tumor was completely hidden beneath the inferior surface of the liver. It would have been an easy matter to excise this tumor; but the experience of one of the previous speakers was fresh in my mind. Our patient, already extremely weak before the first incision was made, was evidently failing fast. It was determined therefore to give up the excision of the stomach and establish an aperture between the stomach and a loop of the small intestine.

Little difficulty was encountered in seizing a loop of intestine about eight or ten inches from the extremity of the duodenum. The length of the mesentery of this portion of the jejunum readily permits the approximation of the loop seized to any portion of the gastric surface. The

intestinal loop was brought to the anterior wall of the stomach and fastened to it by eight Limbert's sutures, which were arranged in a semi-circle, the diameter of which was about two inches. Then the blades of long forceps covered with soft rubber tubing were applied to the stomach and intestine to prevent the possible entrance of foreign matter into the peritoneum. Incisions one and one-half inches in length were then made in corresponding parts of gastric and intestinal walls. The perfect approximation of the apertures to each other was easily accomplished by nine sutures arranged in a semi-circle, the ends of which touched those of the half circle previously mentioned. In order to farther insure immunity of the peritoneum from contact with intestinal contents, an outer circle of sutures was applied. No drainage tube was inserted into the abdominal wound.

The patient survived the completion of the operation eight hours. In the opinion of Dr. Whittaker and the speaker, death must have resulted in the natural course of the malady in not more than one week. The speaker believed that if the operation had been practiced one or two months sooner, the chances of temporary improvement would have been vastly greater. In two cases life had been prolonged for many months by this operation, and the avoirdupois of the patients increased. These cases were alive and doing well, respectively, six and four months after the operation. As to the ultimate results, he could gain no information.

DR. RANSOHOFF then presented the specimen with the communicating orifice between stomach and intestine. At the the post-mortem, some milk which had been administered in minute quantity to the patient after the operation, was recognized in the intestine.

So far as the speaker knew, this was the seventh gastro-enterostomy that had been performed. The operators were Woelffler, Billroth, Lücke, Lauenstein, Rydgier, Courvoisier, and he himself. Of these cases, two temporarily recovered (Woelffler and Lücke).

Woelffler performed the first operation in September 1881, and it is therefore entirely too early to predict its future history. When it is remembered that cases of malignant and even of non malignant stricture of the oesophagus succumb to starva-

tion, nothing more plausible than this operation can be imagined. It side-tracks an unimportant part of the alimentary canal, and allows the digestive processes to be conducted in an almost natural manner. It in so far is infinitely preferable to the establishing of an intestinal fistula through which the patient is to be fed. In other malignant pyloric strictures, the speaker believed that gastro-enterostomy would, in the course of time, supplant excision of the pylorus.

Concerning this operation for malignant disease, the speaker could only express his admiration for the bold attempts made to prolong life in otherwise hopeless cases. He had not seen any recent statistics relative to the subject, but believed that one hundred cases could be collected, not one of which (as far as he knew) was known to have permanently recovered. The reason for this uniform mortality, lies in the prolonged waiting for positive objective symptoms to develop. When these are unmistakable, the disease has usually progressed so far that a radical removal of the tumor must be despaired of, or adhesion to neighboring parts render the operation utterly impracticable.

If in the case presented by the speaker an operation had been made three or four months sooner, the small size of the neoplasm, and its absolute freedom from adhesions, would have permitted easily excision of the pylorus, and some slight hope for a permanent recovery might have been warranted.

DR. CONNER wished to present a specimen illustrating what may be found in the later stages of carcinoma. He was particularly interested in the idea that many cases are the result of a chronic gastritis. Speaker read not long ago a report of a number of cases, the author claiming that all carcinomata are due to a preëxisting inflammation.

It is not only true that there is a disposition to attribute carcinoma to a preëxisting inflammation, but there is a strong inclination on the part of many to claim that all tumors are of inflammatory origin.

About two weeks ago speaker was called to see a man, suffering with symptoms of cancer of the stomach. Upon examination a distinct tumor, the size of a closed fist, was detected occupying the region above the umbilicus. The patient was greatly emaciated and had suffered for a period of

fourteen years with an almost persistent dyspepsia.

In the specimen presented the larger part of the stomach was involved. The patient was almost starved to death, and the operation was performed upon her earnest solicitation.

Omitting the operation for non-malignant tumors or sarcomata, it is doubtful whether any operation is of value. It is of more service to the operator than the patient. In some cases relief may be afforded for a considerable period. In the majority of cases the patient will not submit to an operation until the disease has reached an advanced stage.

It is a question whether in cases in which the disease is confined to the pylorus, it is not better to make a connection between the unaffected stomach wall and a knuckle of the intestine below in preference to an exsection. By this procedure a digestive tract could be obtained and the patient be rendered more comfortable for a while.

The great difficulty in these cases consist in the recognition of the disease at such an advanced stage, when any interference may be termed audacity. If a non-malignant growth be removed a longer lease on life may be hoped for than in cases of malignant tumors.

DR. RANSOHOFF claimed that his was the first gastro-enterostomy performed in America.

DR. CONNER said that as far as he knew his was the first case on this side of the Atlantic, in which the entire stomach was removed, and but two cases have since been reported.

DR. S. NICKLES remarked that he thought it was about time to take the subject under discussion out of the hands of the surgeons, for all the patients died. He called attention to a method of diagnosis of cancer of the stomach proposed by Dr. R. von den Velden in 1879. In numerous cases of dilatation of the stomach, von den Velden had washed out the stomach and had carefully determined the chemical reactions of its secretions. In eight cases of gastric cancer he constantly found the contents of the stomach destitute of free hydrochloric acid. The like defect was found also in typhoid fever and temporarily in some cases of dilatation not due to cancer. He supposed that his observations might be of great service in the differential diagnosis between pyloric stenosis from

cancer and that from other pathological conditions. If free hydrochloric acid is found in the stomach contents, cancer may be excluded and a favorable prognosis be made; but should the acid be absent, the diagnosis would remain doubtful until the stomach had been washed out for eight or ten days, when, if the acid should be found, its previous absence might be attributed either to the presence of a concomitant catarrh or to a febrile process; but should the acid remain absent, the presence of cancer would be exceedingly probable, at least the prognosis would be unfavorable.

Rosenbach states that he found free hydrochloric acid absent in two cases of atonic dyspepsia, in which no accumulation of mucus in the stomach had taken place, and also in one case of digestive disorder produced by severe anæmia. Edinger had reported cases of amyloid degeneration of the gastric mucous membrane in which he could not detect free hydrochloric acid.

The statement that cancer may result from chronic gastric catarrh led the speaker to reflect upon the treatment of cancer of the stomach by condurango, as proposed a number of years ago. He thought it probable that the favorable results that were said to have been obtained from that remedy were in reality due to its beneficial action in some forms of gastric catarrh, in which it had been found to relieve pain, arrest vomiting, and restore the appetite.

As regards the diagnosis the speaker was of the opinion that if a patient have paroxysmal pain referable to the stomach, if he vomit frequently some hours after eating, if he is emaciated and weak, and especially if a tumor can be felt, cancer may be suspected. But sometimes when all these symptoms are present, cancer does not exist, and, on the other hand, when several of them are absent, cancer is found *post mortem*. Some cases run to their termination without vomiting, some without marked pain, and some present no tumor. Leube last year reported a case (Deutsches Arch. für klinische Medicin, Bd. 33, p.3) which well illustrates the difficulties not infrequently encountered in the diagnosis. The patient for years was occasionally affected with heart-burn, weight in the epigastrium, nausea and vomiting. These symptoms gradually recurred more frequently and continued longer. Coagulated blood was several times found in the

vomit. There was fullness of the epigastrium and pain over a circumscribed part of the stomach. The patient was much emaciated. A tumor, hard, nodulated, painful on pressure, and as large as a plum, was found to the right of the umbilicus, and the stomach extended 3 or 4 finger's breadth below the umbilicus. The washings of the stomach always contained an abundance of free acid. It was determined to excise the tumor, and the patient left the hospital to arrange his affairs. After five days he returned to submit to the proposed operation. All the symptoms remained as formerly, but the tumor was no longer to be felt, even when the patient was under the influence of chloroform. The operation, of course, was not made. Improvement followed a carefully regulated diet and frequent washings of the stomach. The dilatation of the stomach was still present after the lapse of a year and a half, but a tumor could not be detected again. Leube says that in five other cases he had detected tumors having all the characters of gastric cancer in emaciated patients, which disappeared during treatment.

If it were true that cancer can originate from gastric catarrh, then it ought occur even more frequently than it is supposed to, for there is scarcely an individual, the speaker thought, who has not at some time in his life a more or less persistent chronic gastric catarrh.

ILLINOIS STATE BOARD OF HEALTH.

Quarterly Meeting, Nov, 20 and 21, 1884.

The regular quarterly meeting of the State Board of Health of the State of Illinois was held in the rooms of the Board in the Capitol building at Springfield, November 20 and 21, 1884.

Present, the Hon. Newton Bateman, President of the Board, and Drs. Clark, MacKenzie, Kreider, and Rauch.

After the reading and approval of the minutes of the last meeting the Board went into executive session, for the consideration of charges against certain practitioners under the Medical Practice Act.

At the evening session the Secretary presented the following:

Quarterly Report of the Secretary.

During the quarter ended September 30, 1884, there were received in the Secretary's office 1,623 communications, letters, re-

ports, etc., and 3,472 letters, postals and other written communications were sent out. Of printed matter there were distributed 2,689 copies of the Fifth Annual Report and upwards of 200,000 copies of other printed matter—the mail and express packages sent out during the quarter aggregating 8,982 pounds' weight, or over four tons.

Among the more important written and printed documents distributed were those concerning the vaccination of school children, sent to about 12,000 school districts, through the County Superintendents.

Concerning the Sanitary Inspection of Public Buildings—especially of Almshouses, Jails and similar Institutions—sent to County Commissioners, Boards of Supervisors and other officers:

Concerning the Sanitation of Railway Buildings, Grounds and Travel, sent to the General officers of thirty-three Railway Companies operating in this State:

Concerning Preventable Diseases sent to localities in which Small-Pox, Scarlet Fever, Diphtheria, or Typhoid Fever appeared.

In connection with these latter circulars, the blanks for Reports of Epidemic Diseases have been revised, and a new edition has been partly printed, together with a circular of instructions for their use.

A pamphlet of 51 octavo pages has also been prepared, printed and distributed, containing the Public Health Laws of Illinois; the Form of an Ordinance for the Protection of the Public Health, suggested for adoption by communities which have no health organization, and for substitution for existing health ordinances which have been found defective or inoperative; Rules and Regulations concerning Contagious Diseases; concerning vaccination; concerning the Sanitation of smaller Cities and Towns; and concerning the Principles and Practice of General Sanitation.

MEDICAL PRACTICE.

State certificates, entitling to practice medicine and surgery in Illinois, were issued to 105 graduates, 88 of which were granted unconditionally upon the diplomas of medical colleges in good standing; 6, upon examination in omitted branches, to graduates of colleges which had not fully complied with the schedule of minimum requirements of the Board; and 11, upon presentation of evidence of proper prelimi-

nary education, to graduates of colleges, otherwise in good standing, but which had not yet enacted a matriculation examination, at the beginning of the session of 1883-84. There were also issued 8 duplicate certificates upon affidavits of the loss or destruction of the originals, and one certificate based upon length of practice in the State.

To midwives, 6 certificates have been issued upon the diplomas or licenses of recognized schools of midwifery, and 3 upon satisfactory examination.

QUACKS AND DISREPUTABLES.

With the exception of those in Chicago, the fraudulent advertising quacks and disreputable specialists seem to have been pretty well weeded out of the State. For the first time since the passage of the Medical-Practice act there have been no complaints received concerning this class, except as above indicated.

After repeated attempts a Grand Jury was at last found which indicted eleven of the more prominent of those in Chicago during the month of July; but thus far none of the number has been convicted.

The noted quack, R. C. Flower, of Boston, Mass., has finally abandoned his efforts to secure a foothold in Chicago. By means of insidious and plausibly-worded advertisements, frequently of over a column in length, he succeeded in doing quite a thriving business for a time, and charged the most exorbitant fees. Unable to comply with the law and obtain a State certificate, and being refused an itinerant license, he was compelled to make appointments with his patients at Michigan City, in Indiana, and at Davenport, in Iowa, only venturing to stay in the State for a day or two at a time, and leaving before his arrest could be effected. Some of his dupes and victims have lodged complaint against him, and are now anxious to secure his arrest and punishment.

The suit of Frank B. Smith, one of the "K. and K. Surgeons," against the Secretary of the Board, for \$50,000 damages, alleged to have been sustained by the revocation of his certificate by the Board on charges of unprofessional and dishonorable conduct, and which suit was brought at Detroit, Mich., in the United States District Court, has been dismissed and the plaintiff mulct in costs.

THE PUBLIC HEALTH.

Small-pox, noted as existing in isolated

localities in the southern portion of the State at the date of the last report, was practically extinct at the close of the quarter, with the exception of a few cases in Marshall county, the contagion of which was introduced from Indiana. Reports of a serious epidemic of the disease in Ballard County, Ky., threatening Cairo and the line of the Illinois Central Railroad, led me to visit the locality early in August, after communicating with the Secretary of the Kentucky State Board of Health. The precautions necessary to protect the threatened region of our own State were instituted, and these were efficiently supplemented by the action of the management of the Illinois Central, under the direction of the Superintending Surgeon, Dr. John E. Owens.

Notwithstanding the freedom of the State from this disease at the present time, and its subsidence abroad, the necessity for vaccination and re-vaccination in all localities where there are still unprotected individuals is likely to become apparent upon the approach of cold weather; and it is incumbent upon local health authorities to secure the fullest protection in season.

There has been a diminution in the prevalence of scarlet fever during the quarter; but toward its close, there is noted an increase of diphtheria and of typhoid fever. The demand for the Preventable-Disease circulars of the Board has, in consequence, been much greater than usual, and that on diphtheria has been re-printed, in part or whole, by many newspapers.

In response to a telegram from Dr. Salmon the Veterinary Expert of the Department of Agriculture at Washington, I went to Peoria on the night of the 17th of August, and on the following day examined some cattle suspected of being infected with pleuro-pneumonia. The post mortem examination of one of these animals confirmed the diagnosis, and since that date the disease has been detected in several other localities. Occasional cases continue to be reported, but the State Veterinarian believes the outbreak is in a fair way to be suppressed. The necessity for additional legislation on the subject of the contagious diseases of animals, already suggested from time to time in these reports, is emphasized by this outbreak.

SANITARY INSPECTION AND WORK.

The results of the efforts made in accordance with the instructions of the Board

at the last quarterly meeting, to secure a general inspection and improvement of sanitary conditions have been very gratifying. Reports from 230 cities, towns and villages have thus far been received in reply to the circulars sent out, and an immense amount of work has already been accomplished in remedying the defects disclosed by the inspection. In many localities it is known that reports are deferred until the completion of work already being pushed forward in anticipation of the advent of cholera next year.

I have personally inspected a number of the State institutions, and find them in as good sanitary condition as could be expected in view of obvious faulty construction, or location, from a hygienic standpoint. Such suggestions of improvement as I have found it necessary to make, have been carried out as far as practicable.

Responses to the special circular concerning Railway Buildings, Grounds and Travel, have been received from sixteen companies, comprising the more important of all the roads operating in Illinois.

On the whole, there is cause for congratulation in the progress already made in this effort of the Board to secure the best attainable sanitary condition of the State as the most efficient and valuable mode of warding off an epidemic of Asiatic cholera.

It is to be wished, however, that the newspaper press, especially in the smaller cities and towns, would devote some of their space to articles urging the fundamental importance of individual sanitary effort. Without this, boards of health and health officers are to a great extent inadequate to cope with some of the more serious evils. A large portion of the community needs to be taught that personal cleanliness and cleanliness of the household and premises are among the highest results of sanitary science and that, of themselves, they constitute the best safeguards against contagion and preventable disease.

THE CHOLERA.

Soon after the adjournment of the last meeting of the Board, the spread of Asiatic Cholera in Europe, and the indications of its possible cis-Atlantic extension became so threatening that on the 17th of July, I addressed a communication to the Hon. Erastus Brooks, of New York, chairman of the National Conference of State Boards of Health, suggesting that a session of the Conference be held in Washington City,

with the view of securing concert of action on the part of all those charged with the administration of public health affairs, of devising some general and efficient system of supervision and notification at all seaports, and of ascertaining authoritatively the plans of the General Government with reference to measures for the prevention and limitation of the threatened epidemic. To this meeting it was proposed to invite the health officers and quarantine authorities of all seaports and boundary towns, the health authorities of important inland cities—especially those in States having no State Boards of Health—and the health authorities of the Dominion of Canada.

The suggestion was favorably received, and the time of the meeting was fixed for the 7th of August; but, before that date, the President and the members of the Cabinet with whom it was desired to confer, had left Washington, so that the chief reason for deciding upon the National Capital as the place of meeting was destroyed and this fact, coupled with more favorable news from Europe, led me to propose a postponement to the regular period of meeting, namely, during the session of the American Public Health Association. The National Conference accordingly met, in the city of St. Louis, on the 13th of October, delegates from State Boards of Health, and from various health organizations in twenty States, and representatives of the Provincial Board of Health of Ontario, and of the government of the Dominion of Canada, being in attendance. The session, which was continued on the 14th and 15th, was devoted entirely to the considerations of the questions above indicated, and the report, formulated on the discussions, addresses and papers, and adopted by the Conference, was subsequently endorsed by the American Public Health Association, ordered to be printed, and copies forwarded to the President of the United States and his cabinet, to each of the Senators and Representatives in the National Congress, to the health officers of cities, to the various State Boards of Health, and to the officers of the Dominion of Canada and of the Provincial Board of Health of Ontario.

Copies of the report of the proceedings of the Conference, including the text of a paper by Dr. C. W. Chancellor, Secretary State Board of Health of Maryland. "Can Epidemic Diseases be excluded by Sani-

tary Cordons?" of a memorandum of "Quarantine and Sanitary Methods formulated by the National Board of Health in re Asiatic Cholera," prepared by Dr. Charles Smart, U. S. A., member of the N. B. H.; and of my address at the opening of the Conference.—"Practical Recommendations for the Exclusion and Prevention of Asiatic Cholera in North America;" have already been furnished to the members of the Board, so that it is not necessary at this time to do more than refer to the illustration, furnished by recent developments, of one of the points made in my address, to-wit: "That we may not know how widely spread the disease now is on the European continent, and we *do* not know how soon its arrival on our own shores, may be announced." The proof of systematic and persistent suppression of damaging information by European authorities, which I then submitted, and since corroborated by the disclosure of the existence of cholera in Paris for months before the fact was reported, justifies us in suspecting a much wider extension of the area of infection than is acknowledged or known to exist.

The action of the Board has already anticipated all the practical measures which have been recommended in the interim since our last meeting, and I do not know that there remains anything more for the Board to do in its official capacity beyond a formal endorsement of the report of the National Conference.

RECOMMENDATIONS AND SUGGESTIONS.

The following recommendations and suggestions are respectfully submitted:

FIRST.—That a thorough sanitary survey of the State be inaugurated not later than the 1st of January, 1885, under the direction of the Board.

SECOND.—That a committee of the Board be appointed to prepare revisions and amendments of the laws of the State regulating the practice of medicine, and concerning the protection of the public health. The defects of the statutes concerning both these subjects are patent, and should be remedied as speedily as practicable.

THIRD.—That action be taken in anticipation of the forthcoming meeting of the National Conference of the State Board of Health, with reference to the subject of Asiatic Cholera.

JOHN H. RAUCH,
Secretary.

Upon the conclusion of the reading, on motion of Dr. Clark, the report was accepted, the recommendations and suggestions were taken up for consideration, and the following action was had:

SANITARY SURVEY OF THE STATE.

Dr. Kreider submitted the following resolution which was adopted:

Resolved, That the Secretary be authorized to prepare the necessary blanks and instructions, and to distribute the blanks to the proper authorities of counties, township and municipalities, for a thorough and systematic sanitary survey of the State, to be begun by January 1, 1885, or as soon thereafter as practicable.

The Secretary explained that it was proposed to begin work in the southern portion of the State and to work northward as rapidly as the weather would permit, so that by the 1st of May the sanitary condition of every dwelling, in all of its parts, of all premises, outhouses, wells, cisterns and other belongings, should be made known, the remedy of defects be pushed, and the authority of the Board be exerted wherever necessary to supplement the efforts of local authorities in the preparation of the State to resist the threatened invasion of Asiatic cholera.

NATIONAL CONFERENCE ON ASIATIC CHOLERA.

With reference to the forthcoming meeting of the National Conference of State Boards of Health to be held in the city of Washington, December 10th, prox., to consider the subject of Asiatic cholera, Dr. Clark offered the following preamble and resolutions which were adopted:

WHEREAS, The members of the Board, having carefully considered the able and exhaustive paper upon the exclusion and prevention of Asiatic cholera in North America, prepared by the Secretary of the Board, find the argument set forth abundantly supported by incontestible facts duly cited in the text, and believe its conclusions and recommendations to be comprehensive, practical and sufficient; and

WHEREAS, This subject is the most important of any which now demands the attention of those charged with the protection of the public health—involving, as it does, the prevention of a great sacrifice of human life, of an immense money expenditure, and of serious and widespread injury to commerce, manufactures and other industries—therefore, be it

Resolved; That a committee be appointed to draft a formal expression of the views of the State Board of Health of the State of Illinois concerning the measures which should be adopted and enforced by municipalities, States and National Government for the protection of the country against an invasion of Asiatic cholera.

Resolved, That the action of the National Conference of State Boards of Health, held at St. Louis, October 13-15, 1884, on the subject of Asiatic cholera, be, and the same hereby is, approved and endorsed by this Board.

Resolved, That the Secretary of this Board be authorized to attend the forthcoming meeting of the National Conference in Washington, D.C., and to present to said Conference the action of this Board as above indicated.

On motion of Dr. MacKenzie the Chair was authorized to appoint the committee, to consist of five members, including the President as chairman of the committee. Drs. Haskell, Clark, McKenzie and Rauch, and Hon. Newton Bateman were thereupon appointed as members of the committee.

REVISION OF THE LAWS.

On motion of Dr. Kreider the President appointed a committee, consisting of Drs. Rauch, Haskell, Kreider, Clark and MacKenzie, to prepare revisions and amendments of the laws regulating the practice of medicine and concerning the public health to be submitted to the next General Assembly.

During the executive session of the Board the case of Dr. Ed. S. McLeod, of Chicago, was considered. The following extract from the formal notification citing McLeod to appear before the Board and show cause why his certificate should not be revoked for "unprofessional and dishonorable conduct" sufficiently explains this case:

"The charges against you are that you ply your vocation by means of fraudulent and deceptive advertisements under assumed names, to-wit: under the aliases of "Dr. James" and "Dr. Lucas"; that in order to secure patients you hold out inducements and promises, and make suggestions which in themselves tend to promote crime and immorality; that you publish and distribute through the United States mails and otherwise to all classes of the community, including the youth of

both sexes, obscene circulars and pamphlets, for which you have already been once indicted in the United States District Court at Chicago, when you pleaded guilty, were fined \$500 and costs and your plates and circulars were seized and destroyed by the United States authorities; that such fraudulent, deceptive and demoralizing practices constitute "unprofessional and dishonorable conduct" within the meaning and intent of the statute, which was enacted for the protection of the people from the ignorant and unscrupulous under the guise of medical practice."

Upon mature deliberation and careful consideration of the evidence offered in support of the charges, the certificate of Dr. Ed. S. McLeod was ordered to be revoked.

After the transaction of the regular routine business and auditing of accounts and bills—amounting to \$2,876.55—the Board adjourned.

INFANTILE PARALYSIS. RECOVERY. —

A girl aged twelve years, when two years old, suddenly lost the power of motion in her right arm and leg. Gradually she regained some power, so that now she can raise the arm slightly and grasp feebly with the hand, the latter with the fingers slightly flexed. She is unable to extend them. The muscles are wasted, flabby, and the skin cold and bluish-purple in color. The lower extremity is in a worse condition, emaciation being more advanced, and she has less power in moving it. Sensation is normal, electric contractility diminished. The foot is inverted, and she walks with difficulty.

Morbid anatomy.—That portion of the cord which furnishes nerves to the paralyzed muscles shows a marked diminution in the number and size of the motor ganglion cells of the anterior gray cornu, and atrophy of the axis-cylinder of the nerve fibres with increase of the connective tissue in the antero-lateral columns. In the earlier stages are hemorrhages and other evidences of inflammation. The muscles undergo fatty degeneration. The circulation is feeble, and ulceration from slight pressure is very likely to occur.

Treatment: Warmth to the parts, friction, warm douche, shampooing, passive exercise; tenotomy if necessary. Under this treatment the patient, after several months, could walk with scarcely a perceptible limp.—*Lancet*.

THE CINCINNATI LANCET AND CLINIC

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SUBSCRIBERS TO THE LANCET AND CLINIC who have not already remitted their subscription will confer a favor on the publisher by promptly doing so.

Cincinnati, November 29, 1884.

At the meeting of the Cincinnati Medical Society on Tuesday, December 2d, Dr. Zenner will read a paper on "Cerebral Localization."

ACADEMY OF MEDICINE.—Dr. Thad A. Reamy will read a report at the next meeting, Monday evening, December 1st, of a "Case of Fatal Poisoning by one-fourth of a Grain of Morphia administered Hypodermically in an Adult."

At the meeting of December 8th, Dr. Thrasher will read a paper on "Removal of a Foreign Body in the Esophagus."

Selections.

MEDICINE.

ACUTE ASCENDING PARALYSIS.—Typical cases of acute ascending paralysis are characterized, according to Westphal and others, by an absence of morbid appearances in the cerebro-spinal nervous system; and the theory has been advanced that the disease is due to some toxic agency. On the other hand, cases have been described in which there was a well-marked affection of the cord and medulla oblongata; and this has suggested the view that the disease belongs to the group of acute myelitis. It is as a contribution to this discussion that Hoffmann reports his case (*Archiv. f. Psych.* Bd. xv., p. 149). Clinically, it was a typical case of the disease. Microscopic

examination disclosed inflammatory changes in the cord and medulla oblongata. There was inflammation of the pia in the cervical and dorsal regions, with patches of myelitis, especially in the lateral and anterior columns, and small hemorrhagic extravasations; similar changes were observed in the medulla, in particular in the pyramids and corpora restiformia. This case then supports the myelitic view of ascending paralysis.—*Brain*.

THE COMPARATIVE ACTION OF THE DIFFERENT ALKALOIDS OF ACONITE ON THE HEART.—Dr. A. Torsellini has recently made a series of experiments as to the action of the nitrates of aconitine, napelline, lycoctonine, and of aconitic acid on the heart of the frog and the toad. Roy's apparatus was used in the first cases, and Ranvier's cardiograph in the second. The results were as follows:

1. Nitrate of aconite caused, in the excised heart a slight, in the removed heart strong diminution of the cardiac beat: and in the latter also a very slight and transitory lessening of the systolic elevation. In neither was the rhythm irregular.

2. Nitrate of napelline causes irregularity of the rhythm in each, lessens the systolic elevation, and causes no slowing of the heart-beats in the excised heart, but an increased contraction of the unremoved heart.

3. Nitrate of lycoctonine slightly increases the beats of the excised heart, increases the systolic elevation in both, and does not change the regularity of the heart's action in the least; on the contrary, it antagonizes the irregularity caused by napelline.

4. Aconitic acid acts on the heart in a decidedly paralyzing manner.

From these results it is seen that the different alkaloids of aconite not only act differently, but that some antagonize others, as regards the effects on the heart.—*Centralbl. für die gesammte Therap.*, October, 1884.—*Medical News*.

MISCELLANY.

"THE LANCET" ON MODERATE DRINKING AND TEETOTALISM.—At the recent Health Exhibition in London the subject of intemperance was discussed, and the use of alcoholic drinks was condemned in no measured terms. The *Times* thereupon published a leading article defending mod-

erate drinking, and stated that teetotalers were persons of inferior physical development, and, so far as they can be judged by facial expression, "not remarkable for intellectual power," the best work of the world being done by the moderate drinkers. On the whole it was concluded that the teetotal societies do very little good and a great deal of harm.

The *Lancet*, in commenting upon this, without attempting to defend the dogmatism of temperance reformers, says:

"We can not much approve of the article in our contemporary, but it is rather of its tone and spirit than of its substance that we have to complain; rather with its scant and reluctant praise — its actual dispraise — of men with a good cause and with good motives, than with its scientific propositions, that we have to quarrel. The world is not so much in danger of neglecting to take a proper amount of alcohol that it needs three or four columns of ingenious argument to prevent it from falling a prey to indigestion and nervous exhaustion by drinking water alone. But the excuse for such writing would be less if there was a little more reasonableness and temperance on the part of those who seek to abate the national consumption of alcohol. Their case is by no means so contemptible logically and medically as the writer of the above would make out. There are some very good-looking fellows among them; they are not by any means intellectually contemptible; they live quite as long, if not longer, than other people, and escape many diseases that affect others, though they have their own liabilities. They are good workers. There may not have been a teetotal Shakespeare or Milton — there has not been time — but much of the best work of the world nowadays is done by men who either do not use alcohol or use it in such quantities as to be inoperative physiologically or pathologically. And the common work of the world is done well by abstainers; they are industrious, reliable, healthy. According to Lord Woolsey they make good soldiers. Sir William Gull has said that 'it is one of the commonest things in our society for people to be injured by drink without being drunkards. It goes on so quietly that it is very difficult to observe, to the professional eye the effect is perfectly marked and distinct.' Many other eminent men have given similar testimony. So that there is an amount of drinking

deemed moderate by society which, in the opinion of judges, is very injurious to the liver, the lungs, the nervous centres, etc. Further, the actual impression made by the teetotal school on public opinion and social habits is considerable, so that sensible men do not take stimulants in the quantities they used to, nor on empty stomachs and without food. No doubt much of this is due to sounder medical science, and to the extreme moderation of medical prescription and example. But part of it is due to teetotalism and to religious efforts to promote sobriety, which it should be the desire of everyone to second, as there is still a frightful amount of ignorance abroad as to the immunity with which alcohol, even in strong forms, may be taken into empty stomachs. A physiologist may still be shocked every day in a restaurant or a railway refreshment room — of course physiologists never go into public houses — by seeing young men order and toss off, without thought and without food, glasses of spirits more or less raw. He knows how infallibly and how quickly that leads to mischief. But for evils and follies like this there is room for common protest and effort, apart from intemperate doctrines of teetotalism on the one hand and too easy disparagement of those who hold them, on the other. — *Medical Times*.

THE CAUSE OF CHOLERA. — A member of the Marseilles Cholera Commission has furnished the following summary of its conclusions thus far:

1. The cholera is transmissible to the rabbit, as demonstrated by the injection into the veins of the blood of a cholera patient at the algid period. The rabbit died in twenty-four hours with lesions entirely like those of cholera.

2. By cultivation, this blood after a few hours loses its infectious properties.

3. Injections of choleraic blood in the period of reaction, or a very advanced algid period, produce no effect.

4. The perspiration of a cholera patient injected into the veins does not transmit cholera.

5. The stomachic or intestinal dejections, or the gastro-intestinal contents (the last full of comma-bacilli), may, after filtration, be injected with impunity into the cellular tissue of the peritoneum, even into the blood.

6. Comma-bacilli taken from the intes-

tines of a cholera-patient may be introduced into the intestines of a rabbit, and multiply there more than eleven days without producing any choleraic symptoms, and without necropsy revealing the pathological lesions of cholera.

7. There is thus every proof of the non-specificity of the comma-bacillus. We experimented upon bacilli taken from the intestines, and with dejections kept from two to twelve days, the results being always negative. Everything also proves that this bacillus does not produce in the intestine toxical ptomaines which would be the cause of poisoning—namely, the lesion of the blood. The inference from more than fifty of these experiments is the non-contagiousness of cholera.

8. The minute examination made by us of the heart and great venous vessels enables us to affirm that there is no phlebocarditis in cholera, as alleged by Morgagni, and still held by many.

9. Bulbar and medullary lesions, or those of the solar plexus appear to be secondary lesions.

10. In our opinion the initial lesion takes place in the blood.

11. It consists essentially in the softening of the hæmoglobin, which makes some corpuscles lose first their clear shape, the fixity or their form, and the faculty of being indented. These corpuscles adhere together, lengthen out, stick together, and in rapid cases especially, some are seen which are abnormal, while others are quite healthy.

12. The entire loss of elasticity of the corpuscle (which is shown by the preservation of the elliptic form when they are stretched out) is, in our view, a certain sign of the patient's death. To stretch out a corpuscle, it is merely needful to alter the inclination of the slide on which a sanguineous current has been established in the field of the microscope. The fluid column stops at one point, whereas the rest continues to flow. An elongation of the intermediary corpuscles results, and then a rupture of the column. In the gap thus formed are some scattered corpuscles. If these revert to their primitive form the patient may recover. If they keep the elliptic form, we have seen death follow in every case, even when the symptoms were not serious at the time of examination of the blood. At the outset, and in rapid cases, which give the clearest results, corpuscles remaining healthy are seen alongside the unhealthy,

and assume the shape well known in heaps of money, or maintain their liberty: When currents are created in the field of observation, the columns of healthy, or less unhealthy, corpuscles remain stationary, or nearly so; whereas the unhealthy corpuscles flow between the columns or stationary masses like fluid lava. This we believe to be the characteristic lesion of cholera. By hourly examination of the blood, the progress of the malady can be mathematically followed. First some corpuscles are unhealthy, then one third, then one half, then two thirds, and lastly death supervenes. A very important fact in our view is that all the corpuscles are not simultaneously affected. We debar ourselves from substituting a fresh hypothesis for all those we have overthrown. We confine ourselves to saying that we know better than our predecessors what cholera is not, but we do not know what it is.—*Phil. Med. Times.*

THE law regulating the practice of medicine in West Virginia has been decided by the Court of Appeals of that State to be "constitutional and valid." The opinion of the court was delivered by Judge Green on the 1st inst., and is an able review of the questions involved.

Translations.

THE AUTOPSY. (I)

Translated from the French for the LANCET AND CLINIC by Dr. F. O. MARSH, Cincinnati, O.

1. *Opening the Abdomen and Thorax:*—The operator stands on the right side of the cadaver, and should not change his position till this operation is finished. As a general rule, in dealing with double organs, the one on the left should be examined first. Thus the supra-renal capsule and kidney on the left side should be examined previous to those on the right.

The section of the soft parts is made by a single continuous incision, commencing at the supra-sternal notch and passing to the left of the umbilicus to the pubes.

At the level of the thorax the first stroke should go to the bone, but over the abdominal cavity the incision should be arrested in the thickness of the muscles. In making this first incision the knife should be

1. From a Manual on the Technique of the Autopsy.

held in the full hand and horizontally, so as not to injure the subjacent organs.

Incising the integument without using the point of the knife is sometimes facilitated by slightly raising up the skin.

A. Laying Open and Inspection of the Abdominal Cavity.—For completing the opening into the abdominal cavity, a penetrating incision is made through the peritoneum, sufficiently large to permit the introduction of two fingers which, separated in the shape of a letter V and used to slightly elevate the parietes, facilitates the complete section of the parts covering the abdominal organs without injury to the latter. (?)

At this point, and continuing as the section of the abdomen proceeds, there may be some escape of fluid, as, for example, in the case of ascites. The loss of this fluid may be prevented by skillfully directed pressure, by means of which it may be collected in a glass graduate.

When the incision through the peritoneum is large enough to admit the graduate, enough of the fluid is dipped out to prevent the possibility of further escape. This method of procedure, which is indispensable when the quantity of fluid is to be accurately measured, is also absolutely necessary when the autopsy is conducted at a private house, where it is desirable not to soil the objects about the cadaver. It is, of course understood that the presence of gas is to be determined at the moment of opening the peritoneal cavity.

After completing the median incision, the operator makes a transverse incision from behind forward, through the pubic insertions of the recti muscles. The abdominal walls can now be much more easily drawn aside in all directions. The condition of the inguinal canals and, in the female subject, the canals of Nuck, should be previously examined with the finger to determine the presence of hernia. Now seizing between the thumb and the fingers, resting on the ribs, the abdominal parietes at the level of the false ribs, the soft parts are stretched upwards and outwards, and by cutting parallel to the ribs, the muscular insertions are detached; then, the knife being held in the full hand and inclined at an angle of 45° , the parts covering the left

thorax are detached by a shaving motion to a distance of five or six centim. beyond the junction of the costal cartilages with the ribs. The peeling of the thorax should be made by sweeping cuts and by pulling, never by a process of dissecting.

This manœuver is facilitated by the left hand passing from pronation to supination, and as a result, in rolling up the abdominal parietes, aids in detaching the soft parts.

The operation is conducted in the same manner on the right side.

The eye should always follow the knife. Any anomalies should be noted and dictated. The state of the skin, subcutaneous fat, muscles (their aspect color, thickness, œdema, ecchymosis, abscess, etc.), any lesions or tattooing of the chest. The mammary glands may be examined from their under surface.

We have thus drawn back from every side the soft parts covering the thoracic cage in front, as well as the organs contained within the abdominal cavity.

After having examined the umbilical vessels, the operator should determine whether the liver corresponds in height with the false ribs, or whether it is elevated, and to what extent. Then passing the hand in front, between the liver and the diaphragm the height is noted in the right mammary line. This manœuvre also serves to determine whether adhesions exist between the liver and the neighboring parts, whether it presents creases from corsets or the action of respiration. If the diaphragm be percussed from beneath, a sense of fluctuation is sometimes obtained. The height of the diaphragm is determined in a like manner on the left side. Now proceed with the simple inspection of the abdominal organs. Without disturbing anything, and by means of sight alone, make note of the parietal peritoneum and the everted abdominal parietes. Note the position of the great omentum, bladder, intestines, colon, sigmoid flexure, stomach, etc. (?) The color of the abdominal organs should be noticed, not forgetting that the blood, even after death, does not lose its power of absorbing oxygen, and thus altering in some degree this feature. Raising up the great omentum, its contents are examined, its adhesions, etc. Examinations are made as to inguinal or crural hernia, whether the

2. This precaution is necessary, since if the intestines be distended with gas they will otherwise form a hernial projection between edges of the cut.

3. "It is evident that if the thoracic cavity be opened and the attachments of the diaphragm dis-

peritoneum covering the intestinal convolutions is polished, or without its normal lustre, vascular, hyperæmic, covered with false membranes or granulations; whether it is tuberculous or cancerous. Examine the vermiform appendix for perforations or adhesions; the cæcum for signs of perityphlitis; terminal portion of the small intestine for perforations, discolorations or spots of miliary tubercles which would indicate the existence of typhoid or tubercular lesions of the mucous surface.

In raising up the mass of intestines regard should be had as to the existence of volvulus or invaginations. (Some of these may have been produced at the moment of the death agony, and can be distinguished by the absence of adhesions or discoloration. Then note is made of the remaining fluid in the abdominal cavity, its character, color, etc. The absence of fluid should be noted — this can only be determined after an examination of the pelvis. Any foreign or detached bodies should be noted.

This examination can not be resumed after the opening of the thoracic cavity and the section of the organs, for it is then impossible to prevent blood and other fluids from running in and soiling the abdominal cavity.

In the female the uterus is examined as to its form, situation, direction and its volume. Normally it is found in right lateroflexion, anteverted and slightly anteflexed. (*) Note the Fallopian tubes, the ovaries and ligaments. The right round ligament is ordinarily the shortest.

The culs-de-sac should be examined without cutting.

When death has occurred during or shortly after menstruation, a small quantity of blood from the ruptured Graafian follicle will be found in the pelvis not infrequently.

In examining the mesentery move the intestines as gently as possible, observing

turbed, the position of the abdominal organs can no longer be accurately determined.

"As the thoracic organs are removed, the diaphragm sags upwards, allowing a displacement of the abdominal viscera.

"An exact comparison of any injuries or wounds in the abdominal walls with subjacent appearances is highly necessary in the examination of injuries involving the viscera, as well as to determine the traumatic character of a localized peritonitis." (Virchow, *Die Sections Technik.*)

4. Anteflexion is more marked in the fœtus and in children.

their normal position. Note any bridles which may have existed and any possible hernia into the retroperitoneal cul-de-sac. The mesentery, seized at its posterior insertion, between the thumb and palm of the left hand, presents the form of a fan, on which may be displayed to view successively the different parts. (*)

Observe any discolorations and thickenings; great importance should be attached to the examination of the glands and their state, and if any injuries exist, the determination of their exact situation may enable us to determine that a particular tract of intestine must be in a pathological condition.

Any more thorough examination should be postponed till after the opening of the thorax, and no incision or manœuvre should be allowed which will not permit an ulterior examination of any existing lesion. (*)

Lateral abdominal or thoracic incisions should not be made, as they fail to give a thorough view of the soft parts which constitute the parietes. Moreover, the abdominal organs are more easily injured by such a method, and the contained fluids can more readily escape, both during and after the autopsy. They should only be employed in very special cases, e.g., when close adhesions with subjacent organs exist, or when it is desirable not to alter the relation of the part of the parietes which is wounded with the adjacent regions, and then the examiner should be content with a limited exploration.

Finally, let us pass to the inspection and then the examination of the thorax.

B. Opening and Inspection of the Thorax.— If any distortion of the intercostal spaces or diaphragm lead to the supposition of pneumothorax, its existence may be tested by pouring water into the trough formed by turning up the thoracic parietes opposite the ribs. If the intercostal spaces be now

5. If this manœuvre is rendered difficult by the distension of the intestines with gas, it is allowable to puncture them slightly at different points.

6. "If the large hepatic vessels are severed in removing the liver before the thorax is examined, the blood will more or less completely escape from the right side of the heart, thus giving erroneous ideas on subsequent examination of the cavities of the heart.

"In case of suspected poisoning, the stomach should be made the chief object of investigation; it should be removed entire and every effort made to preserve its integrity." (Virchow.)

punctured under the surface of the water, any escaping bubbles of gas may be noted.

The knife being held horizontally, the cartilages are divided with a single sweeping cut, repeated if necessary, several millimetres from their junction with the ribs. The knife is not allowed to stop at each cartilage, but leaps, so to speak, from one to the other in its sweep.

If the cartilages be ossified, they may be divided more readily by the use of the ordinary pruning-shears than with the costotome. In such a case the ribs may be divided a little external to their cartilages, thus giving a wider opening into the thorax.

Next in order the clavicle should be separated from the sternum and first rib; for this purpose a scalpel with narrow blade answers best. The sternal fascia of the sterno-mastoid is divided transversely.

Then with the knife held vertically, the joint is entered, describing a curve with the concavity outward.

Arriving at the anterior and postero-inferior angle of the clavicle the knife may be arrested by the projecting parts about those angles, which may, however be easily passed by giving the knife a few lateral movements. By drawing the scalpel towards himself the operator severs the costo-clavicular ligament and the costal cartilage of the first rib; the latter, however, is best divided separately, or at a little distance from the costo-chondral junction of the second rib.

In case of ossification the pruning shears may be used. Great care is required to avoid injuring the subjacent vessels.

Seizing the sternum by its inferior extremity, the connections of the diaphragm with the costal cartilages and the xyphoid are severed, then raising the sternum, it is separated from the mediastinum by shaving loose the underside of it in such a manner as not to cut the great vessels, which are, however, often injured in spite of all precautions. Nevertheless, there will always be time enough to inspect the pleural cavities before they become soiled with blood, but it is a wise precaution to have an assistant compress the wounded vessels with a sponge or with the fingers till this inspection is satisfactorily completed.

It is ordinarily unnecessary to cover the borders of the thoracic opening with the skin of the parietes, except where, in consequence of ossification, the ribs have been

severed with the shears. The use of cloths, etc., is to be rejected.

By passing the hand first on the left side and then on the right, between the lung and the chest wall, the existence of old or new adhesions may be determined. The situations of these should be noted, as well as the character of any abnormal contents of the thoracic cavity (odor, coloration, quantity, density, etc.).

Attention is then directed to the amount of retraction which the lungs undergo, to any adhesions within the pericardium, to the persistence or not of the thymus. The connective tissue of the anterior mediastinum is sometimes the seat of pronounced oedema. Abscesses may be found here, proceeding from the cervical region and communicating between the connections of the diaphragm with the ensiform cartilage, with the cellular tissues of the abdominal cavity. Note the condition of the glands, existence of tumors, etc.

Artificial emphysema located in the region of the pericardium, and caused by the elevation of the sternum or by putrefaction changes, may exist. These are to be distinguished from true emphysema by the extension of the latter to the upper mediastinum and cervical region. — (*Le Progres Medical.*)

THE ADMINISTRATION OF CALOMEL AND IODIDE OF POTASSIUM AT THE SAME TIME. There are certain facts that have been thoroughly investigated and accurately described and the importance is generally accepted, but despite all their practical and scientific value they are forgotten, as the following history will go to show: A gentleman, about thirty-nine years of age, made application for treatment during the month of July. The right eye was perfectly healthy, the left eye was almost closed, the lids were slightly oedematous. Photophobia and tearing was quite marked. The conjunctiva was very much injected. A peculiar sort of an ulcer almost surrounded the entire cornea though it was situated in the conjunctiva, the largest portion was covered with a sort of a purulent secretion, but it only destroyed the superficial epithelial layer. Hazy lines radiate to the center of the cornea from this marginal ulcer. The pupil is dilated at maximum, showing only a very small portion of iridial tissue. By oblique illumination a network of very fine lines is found in the

membrane of Desemet. The fundus is scarcely to be seen on account of haziness. The patient complains of severe continuous pains. The general appearance of the patient indicated traumatism through a liquid caustics, but on questioning the following history was obtained: The patient, ten years since, was treated for lues and apparently cured. Three weeks prior to his application an eruption of the skin appeared on his forehead. He consulted a physician who prescribed medicine and cauterized a few of the points of eruption with nitrate of silver. The eruption disappeared, but at the same time the left eye became quite red, for this a white powder was prescribed, to be dusted into the eye before retiring, which the patient did but during the night he awoke with severe pain in the eye. The following day atropine was instilled. According to the prescription that the patient brought with him he was taking iodide of potash internally and at the same time dusting calomel into the eye, which was the cause of the severe inflammation. A discontinuation of the remedies soon caused the inflammation to subside and the patient made a rapid recovery in so far as the ulceration was concerned. The corneal opacities may continue for some time yet. It has been

known for two decades that the simultaneous use of calomel dusted into the eye and iodide of potash internally causes severe inflammation of the eye. Fricke, in 1837, was the first to describe two cases of severe inflammation of the eyes produced in this manner. At the present time these cases are few and possibly in mild cases the real connection is not recognized, as the above fact seems not to be generally known among general practitioners of medicine. There is not a single monograph on the subject of diseases of the eye that makes mention of the fact.—*Berliner Klin. Wochenschrift.*
C. W. T.

The leading article in the *North American Review* for December, "Labor and Capital before the Law," by Judge T. M. Cooley, of Michigan. Wm. K. Ackerman contributes some suggestive "Notes on Railway Management," Dr. Schliemann tells what he found in his excavations of the ruins of Tiryns, in Southern Greece, and Principal Sharp supplements his article on "Friendship in Ancient Poetry" with one on "Friendship in English Poetry." The other articles in the number are: "The British House of Lords," by George Ticknor Curtis, and "Responsibility for State Rognery," by John F. Hume.

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Original Articles.

CASES OF CANCER—KIDNEY, TESTICLE AND STOMACH.

Read before the Essex South District Medical Society, November, 1884.

By D. CHOATE, M.D., Salem, Mass.

It should perhaps be stated at the outset, in regard to this paper, that it does not purport to contain a complete clinical record of the cases presented. On the contrary, it is designed to be in the main, though not exclusively a report with brief discussions thereon, of certain individual features or symptoms of the several cases, such as were judged to be in themselves unusual, or to have some particulars bearing upon the diagnosis or prognosis. In the case to be first reported, for example, the occurrence of a profuse hemorrhage was thought to have special significance diagnostically, and this supposed relation will be chiefly considered. In the second, the age of the patient seemed remarkable for such a disease, and on that ground principally a place is given to it here. In the third, the unexpected disappearance of the tumor during the illness was the interesting feature—a mystery which the post mortem seemed to clear up.

First, then, renal hematuria as an early symptom of renal cancer.

On the 4th of Jan., 1877, a gentleman whose weight was not far from 200 pounds, and his age about 63 years, walked in the early evening from the neighborhood of Holly St. to the centre of the city of Salem, perhaps one third of a mile, and on his way over, slipped upon the ice, but recovered himself without falling. He was immediately conscious of a sensation as if he had strained the lumbar muscles, but went and spent the evening with other gentlemen. Soon after starting for home (10 p. m.) he experienced an urgent desire to micturate, to which he responded, when he noticed something of a slight obstacle to the flow of the urine (due possibly to a small clot) which, however, gave way directly, and the entire discharge that followed it (a very large one he considered it) seemed to be pure blood. During the night blood intimately mixed with the urine was passed twice at least, and vomiting occurred several times. Some pain in the region of the naval was complained of. Back was lame and painful, and on the following day was found tender on pressure over the

right kidney. The flow of blood continued from day to day in varying amount, but on the whole, slowly diminishing. At the end of two weeks only small coagula were seen, the urine itself presenting nearly the normal color. Six weeks after the attack nothing was found under the microscope save blood-corpuscles scattered over the field. After the first large hemorrhage others of moderate severity are noted as occurring at intervals of a few weeks—one in February and one in March, apparently spontaneous; at least without obvious exciting cause. From the latter date this symptom ceased.

In July, six months from the original attack, certain symptoms appeared, which, though not bearing directly upon the point under discussion, seem yet quite worthy of mention. Quite suddenly, one morning at about nine o'clock, patient being otherwise quite comfortable after having ridden to his counting-room, there was felt a numbness or prickling of the left foot and leg, speedily followed by an edematous swelling, that two hours later had extended to the groin. It was accompanied by nausea and headache. The limb was cooler than the other; somewhat purplish when seen in the afternoon, and pitted on pressure throughout its entire length. Nothing abnormal could be detected in the groin, but on being questioned, patient recollected that some nights previous to this he had experienced a difficulty in his breathing, waking him several times. A mitral murmur was found on auscultation, and he stated that he occasionally had palpitation. It seemed probable that an embolus had formed, and partially obstructed the circulation. At all events, no better explanation of the events presented itself then or afterwards.

At this date, the 11th of July, nothing could be felt in the lumbar region suggestive of a tumor, although search had been made for it, but on the 15th of August a tumor was found without difficulty on the right side, and would seem to have grown with great rapidity, since it then appeared to nearly fill the space between the ribs and crest of the ilium. He died the following month, Sept. 14. No post mortem was held.

From the 11th of July, the time at which the swelling of the limb took place, it was becoming more and more apparent that there was serious failure of the general health, and as a result of this, rather than from any individual symptom, the progno-

sis grew grave and threatening. And yet, there were then no symptoms that could be considered pathognomonic, nor until the middle of August, when the growth was detected. It is of course possible that this might have been found somewhat earlier, if sought from day to day, but not so early, it is believed, as the 11th of July. So that the question of having a case of functional or of structural disease to deal with, was really an undecided one up to a period but one month short of the fatal termination.

As we review these symptoms of the middle and later stages, and remember the obscurity surrounding the diagnosis until the tumor was detected. We feel constrained to consider anew and more critically than at the time of its occurrence, the initial symptom, the large and apparently causeless hemorrhage, and to inquire its full significance. Might it not, by itself alone, have given us sufficient evidence to guide our judgment to the true nature of the disease, and so to its inevitable result? Recall, for a moment, the time at which the hemorrhage occurred, the amount of blood lost, the comparative painlessness of the bleeding, its recurrence at intervals, the intimate commingling of the blood and urine—see how these significant features, all associated together as they were, go to make up that particular combination, which, according to good authority, points strongly to cancer of the kidney as the already existing or impending disease. Take Dr. Robert's enumeration. "The chief characteristics," he remarks, "of hematuria occurring in connection with renal cancer, which may be regarded as more or less significant are, that it takes place at irregular intervals, lasting a variable time; that the blood is in considerable quantity, and that there is no pain accompanying the discharge. The blood is mostly intimately mixed with the urine, but sometimes clots form, which during their passage along the ureter, may give rise to renal colic. Examined microscopically, the urine presents blood-corpuscles some of which may be altered in appearance, and often blood-casts are visible." It must be admitted that a symptom like this, occurring under such circumstances, is full of significance, especially when we contrast it with the hematuria symptomatic of other affections. Notice for a moment the characteristics of this symptom as seen in renal calculus, Bright's disease, and in villous bladder. We should

probably hesitate little to assert that the smaller amount of blood, when there is any, accompanying the dislodgement and descent of a stone, must go far to distinguish such hemorrhage from that described in the case reported. Then, too, the pain of the calculous disorder, so rarely absent, so acute in degree, and so well defined in location, would of itself ordinarily keep us from the danger of mistake. In Bright's disease extensive hemorrhage is rare, and when it does occur, the urine is found to contain, besides blood-corpuscles, casts, and renal epithelium, characteristic of this disease. In the disease of the bladder mentioned there may doubtless be large hemorrhages, but the previous history of the case, together with the symptoms peculiarly vesical, would probably guide us aright.

While, then, it cannot be asserted that hematuria is a constant symptom of renal cancer, it being absent in from one half to one third of the cases, we may say with a great deal of positiveness, that when it does occur, it holds a high place among the factors of a differential diagnosis. Certainly we should never forget for a moment the liabilities of that patient in whom it has occurred, even though for weeks thereafter no confirmatory symptoms should have made an appearance.

In the second case, the point of special interest was the age at which the disease first manifested itself. The child died at a little over two years of age. For the date of the earliest symptom we are dependent on the keenness of the mother's observation in detecting the growth, and her ability afterwards to determine the time when she first saw it. It came under my notice when the child was seven months old, and the account then given by the mother was, that for about a month after the birth of the child nothing was noticed that seemed to her unusual, but before the child was two months old there was enlargement of the left testicle. Now, since it could hardly have attracted attention before it had attained some abnormal size, it seems reasonable to believe that the actual commencement of the morbid process must have been as early in the child's life as the end of the first month, if not during the first month itself. As to its appearance and qualities when first seen by the medical attendant, the probability of having a hydrocele to examine being in mind, the record is that it was not unmistakably translucent. It was

smooth, hard, unyielding, and apparently not tender. The mild stimulants that were applied to it, solutions of salt, alcohol and water, and later tincture iodine, failed to make any impression on it, and as the general health was unaffected, nothing radical was attempted for several months. In the following spring, ten months after the first medical inspection, and when the child was now seventeen months old, Dr. Kemble was kind enough to examine it, and suggested the application of electricity, which was done by passing needles through it. This was repeated in all three times. Some little ulceration occurred at the points of insertion, and it was thought that there was a slight reduction in the size of the tumor. Not long after this it began to be seen that a cachectic condition was being developed, and the mother was led to take the child on a visit with her to Charlestown, where her friends advised her to show the case to the surgeons of the Mass. Gen. Hospital. The gland was there removed, August, 1878. No record was kept of any examination of it. Two months later there was noticed an embarrassment of respiration, a "catch" in the breathing. No cough as yet, no fever or other symptoms of acute trouble. After a few weeks cough set in, and at length became harrassing, and the respiration hurried. Marked dullness was found to exist over the lower right lumbar region, but further examination by auscultation was impracticable. The complexion grew sallow, health and strength failed, an occasional flush was seen on the cheek, and death occurred in Jan., '79. at the age of two years and one month.

It is possible some may feel inclined to question the diagnosis in the absence of any post mortem or microscopical examination of the tumor; but the early history, the local appearances, the course of the disease through the several stages, and the final result seem nearly decisive. Recall the slow but persistent growth, sarcomatous rather than encephaloid, the secondary deposit in internal organs, after the removal of the external and primary deposit, and the cachexia—and we seem to have all that could be desired, the autopsy excepted. The extremely early age will not, perhaps, weigh greatly against the diagnosis, any more than should our traditional ideas that the disease is the accompaniment of diminished or arrested function, thereby implying age, a theory to be retained only with

considerable laxness. There is reason to suppose that a somewhat thorough search of the literature of the subject would bring to light a comparatively large number of cases in very young children. A case is mentioned by West of renal cancer fatal at 14 months, and one of the liver at one year. In the Liverpool Med. and Surg. Reports a case is given in which the disease was detected at four months, and fatal at eight months.

The third and last case was one of scirrhus of the stomach, judged to be noteworthy on account of the gradual retreat of the tumor, which had been palpable for months previous. The patient was a lady about 62 years of age, who in Sept. and Oct '82 had a severe and protracted dysentery. Slowly recovering from this, she suffered, as was ascertained, through most or all of the succeeding winter from dyspeptic troubles. Early in March, 1883 she discovered a small tumor a little to the left of, and slightly above the umbilicus. It may seem superfluous to pause at all over an inquiry as to the precise location of the stomach when diseased, and whether this was probably a growth at the pyloric extremity, and yet when we find Niemeyer asserting that Hyrtl's "description of the position of the stomach is not true," and then proceeding to quote from Luschka to the effect that "an incision made through the median line of the body will divide the stomach, so that five sixths will lie on the left side, and at most, one sixth on the right," and going on himself to state that "when the stomach is in a normal position, even cancer of the pylorus will give a tumor on the left side," we are reminded, some of us at least, that medical and surgical landmarks occasionally need to be pointed out anew. It is furthermore an interesting remark of Wilson Fox, though somewhat at variance with that just quoted, that "while in the male sex the site of a schirrus tumor of the stomach is usually at the epigastric region or in the right hypochondrium when the pylorus is the part affected, in the female it may be found (here quoting Brinton) in the umbilical region in nearly two thirds of the cases in which it is discoverable, a peculiarity due in great measure to the effect of the compression of the lower part of the thorax by stays."

In the patient whose case we are describing, it was discovered soon after she came under inspection that the tumor, already

easily grasped by the hand, was wont to undergo at brief intervals a peculiar movement upon itself, perceptible to the touch and eye, not dependent upon any external cause—apparently automatic. As the fingers were laid upon it, it would be carried slowly and rather deeply into the abdominal cavity, and in a moment would rise again to the surface. All this would take place without complaint of pain or discomfort, and almost without the consciousness of the patient. At a later date; in August, it was found that the tumor was slowly diminishing in size or retreating from its former position—gradually and continuously this process went on until at length, by the last of November, it could not be felt with certainty, and if felt at all, it was near the left lobe of the liver. It remained thus practically out of reach to the end of her illness.

Another symptom noticeable, and perhaps uncommon, was that regurgitation was the only act by which the stomach was relieved of its contents, vomiting scarcely taking place at all. Nausea was also almost entirely absent. It would be interesting to find, if it were possible, an explanation of such peculiarities of function in the pathological condition of the organ. It is perhaps impracticable. The cardiac extremity was nearly free from disease, and its muscular coat the only portion at last capable of any physiological action.

The ejecta were rarely acid or bilious, not often mucous; usually watery in character. On but a single occasion were they brown or black. The tongue was clean throughout the entire sickness. A short time before death blood was vomited in small quantity and nearly pure; a little was passed per anum. She died Dec. 13, 1883.

The post mortem showed the stomach to be the primary and almost only seat of disease. This organ was so reduced in size in its transverse diameter as to resemble a section of intestine, rather than the pouch-like form of the healthy stomach, and this extreme contraction gradually effected by the disease, more rapidly, perhaps, and more firmly during the later months, was supposed to be the process by which the retreat of the tumor was accomplished. We find in our text-books several modes described by which such a result is attained. In some instances the stomach is supposed to twist upon its own axis, and so to carry the more superficial parts to a lower posi-

tion. Recalling the peculiar automatic movements accompanying the earlier stage of the illness, it would seem not unlikely that such exaggerated peristaltic action, if such it was, may in this case have contributed to this result. In other instances, we have been told, the tumor has been found lying beneath a distended colon, having by this been pushed back and away from its former position. Not so in this case. Again, sloughing and destruction of the growth has been thought to explain its complete disappearance, which in the present case would be furthest of all from the facts. Whether able to satisfy ourselves as to the manner of its disappearance or not, we can at least be assured of the possibility of such an occurrence, and need not allow ourselves to be confounded as regards the diagnosis.

Greater familiarity with this possible phase of the natural history of the disease might, in the case under consideration, have saved the practitioner a measure of temporary embarrassment. At about the date when the tumor began to diminish in size and recede from view, the friends asked permission to apply an ointment. To the non-professional observer there certainly seemed good reason to believe that a direct connection existed between the use of the remedy and the unmistakable reduction of the mass. About the same time, also through a more free administration of opiates, as was believed the stomach symptoms were considerably alleviated, so that between two such marked indications of improvement, it seemed highly proper for the medical attendant to abstain from expressions of opinion, or at least be very cautious in so doing. The autopsy brought the desired relief, setting all queries and conjectures at rest.

NOTES ON A CASE OF POISONING FROM MRS. WINSLOW'S SOOTH- ING SYRUP.

A Paper read before the Philadelphia County Medical Society, September 17, 1884.

By A. B. HIRSH, M.D.

With the object of adding my quota to the list of serious accidents resulting from the indiscriminate sale of secret medical preparations, I have gathered the notes of the following case:

Mrs. A. H. L. took her 20-months-old boy to visit some friends, and, while there,

they (all unknown to her) fed him some unpeeled apple and other indigestible material. Being colicky all that night and next morning, she was persuaded by a "friend" to purchase a two-ounce vial of the nostrum sold as "Mrs. Winslow's Soothing Syrup," and of this gave him half-teaspoonful doses, as the directions called for, although she insists half of each quantity was split through his struggling.

He took, therefore, the first dose at 4 o'clock on Sunday afternoon (August 24), and, there being no effect, another at 8; then dozing but not sleeping from this time till 3 next morning, the pain starting him again to whining, he was dosed at 5; still crying on, three-quarters of an hour later the final similar amount was administered. The mother soon became alarmed at the marked stupor which had now set in. He would touch none of the breakfast placed before him, Mrs. L. said; although sitting upright in his high chair, his head hung listlessly and he recognized nobody.

I saw him at 7:45 a. m. and found marked symptoms present of poisoning by some narcotic drug. The pupil was contracted down to the typical pin-head; stupor was unmistakable; respiration was very slow, gasping and shallow, while at irregular intervals he would take two or three rapidly succeeding deep sighs; the pulse was rapid and small; the extremities were cold throughout the case. Taking all these symptoms into consideration, and the fact that the breath bore the peculiar odor of an opiate, I felt warranted in treating the case for one of poisoning by some preparation or derivative of that drug.

The stomach and bowels were emptied at once; frequent cold sponging was ordered, with wet cloths placed on the nape of the neck whenever great trouble existed in keeping him awake. Tinct. belladonna was given hourly in aqueous solution. The parents were directed to keep him awake by all means.

By noon he would begin to lift the eyelids a little, but relapsed into a sort of a doze at 2 p. m. Despite all their efforts, he fell once more into a stupor by 6. Calling about this time, I insisted on the mechanical exercises being continued, feeling encouraged by the somewhat improved breathing and that I succeeded a little while later in arousing him. As the pupil had now slowly begun to dilate, the medicine was ordered to be given every

half-hour, or twice as often as before. By 11 he began to lighten up, and, on calling half an hour later, I found him languidly trying to push his ball around the table upon which he sat; the pupils were widely dilated and respiration free. He was allowed to sleep, with slight interruptions from midnight until 6 a. m., after which the child showed his great thirst by frequent demands for ice water. Incoördination of the voluntary muscles now became noticeable and continued until next morning. A typical belladonna rash was now likewise beautifully shown, also to disappear in time. He slept for two hours about noon, being exceedingly irritable afterwards, but, excepting the use of a tonic, required no other treatment.

As stated in the beginning of the notes, this case is merely placed on record to help expose an existing evil, believing that continuous agitation will finally induce the intelligent public to demand the regulation of the sale of patent medicines: a fact concerning which there never was any doubt in the profession.

A fatal result would inevitably have here occurred had no treatment been instituted, and I feel convinced that many such cases happen in our midst, which should be reported; incidentally conversing with both Drs. Schoales and Blackwood, I heard of such occurring in their respective practices and should be glad to hear more fully of those from the gentlemen.

The case is the more pertinent at this time when any fakir or shopkeeper may legally retail unlabeled poisons in the guise of patent medicines, while one of our inconsistent laws is now being so interpreted as to inform the patient that, in very many cases, his doctor has prescribed him medicine containing poison.

DISCUSSION.

DR. JOS. D. SCHOALES: I remember a similar case—a child sixteen months old—with which I sat up a whole night. It recovered under a treatment for opium narcosis. In another child, five months old, the symptoms resembled those produced by a teaspoonful of laudanum. Fifteen drops of the syrup had been given. Neither case resulted in death.

DR. HIRSH: I recall a case in which trouble and annoyance had arisen from a physician's prescription being marked "poison" by the druggist. This occurred after the recent fiasco in which such notice

was ordered in each case by the Coroner's deputy, an interpretation of the State poison law since reversed by the Court. An explanation was necessary before the patient consented to take the medicine and the physician back into the family.

HYDRASTIS CANADENSIS.

By C. G. LLOYD, Cincinnati, Ohio.

There is no other native plant that is of as much interest to physicians and pharmacists as the one that we present on the opposite page: *Hydrastis Canadensis*. It is peculiarly an American drug, and is consumed in larger quantities perhaps than any other. It is the only species of the genus, and no related plant yielding a similar drug grows in any clime or country. It is one of the very few American drugs that is at all exported, and there is some demand for it in Europe.

Hydrastis root is known as yellow root, but that name is supplied to several other plants, and objectionable on that account.

The Pharmacopœia has in the last revision authorized the term Golden Seal as the common name for the plant. We think it is a far preferable name and it would avoid much confusion if it were generally adopted. The name was introduced by the Thompsonians and is quite appropriate, referring to the golden or yellow color of the root, and to the seals or scars with which it is marked.

The plant that yields the drug is rather peculiar. It grows in rich soil and in a limited territory only in the Ohio Valley. In but four states, Ohio, Indiana, Kentucky, and West Virginia is it found sufficiently abundant to repay collection. Cincinnati is nearly the geographical centre of its area of natural growth.

Its habitat is rich open woods where the leaf mold is abundant. The plant has no

The illustration accompanying this article is from the "Drugs and Medicines of North America," a quarterly magazine devoted exclusively to the systematic study and illustration of American medicinal plants. We have made favorable clubbing terms with the publishers, and offer a complete subscription to the work thus far issued for 1884, and also for next year, 1885, and the LANCET one year for \$4.75. The regular price is \$5.50. The work is issued in the very best style and we cordially recommend it to our readers. In renewing for the LANCET we shall be glad to have you take advantage of our clubbing terms with this magazine.

power to adapt itself to altered conditions of growth, and even cutting off the trees will cause it to disappear in a few years. Cultivating the ground is sure to exterminate it at once. It is the common report and observation of botanists that it is becoming rarer in most every locality, and it is probable that it will not be a great number of years before there will be difficulty in obtaining the supply of root that is now annually consumed.

Hydrastis grows in patches. Early in spring it sends up from terminal buds of the root stalk a short erect stem. At the top the stem apparently forks one branch bearing a leaf, the other a smaller leaf and a flower. In reality the stem bears two alternate leaves and a terminal flower. The flower bud is enclosed in the unexpanded leaves, and at flowering time the leaves are only partly unfolded. The floral envelopes fall away as the flower opens and the flower consists only of a circle of numerous white stamens and the pistils in the centre. The growth of the stem is very rapid; two weeks warm weather is sufficient for a patch of *Hydrastis* to grow a foot high from the root bud, and to unfold its flowers.

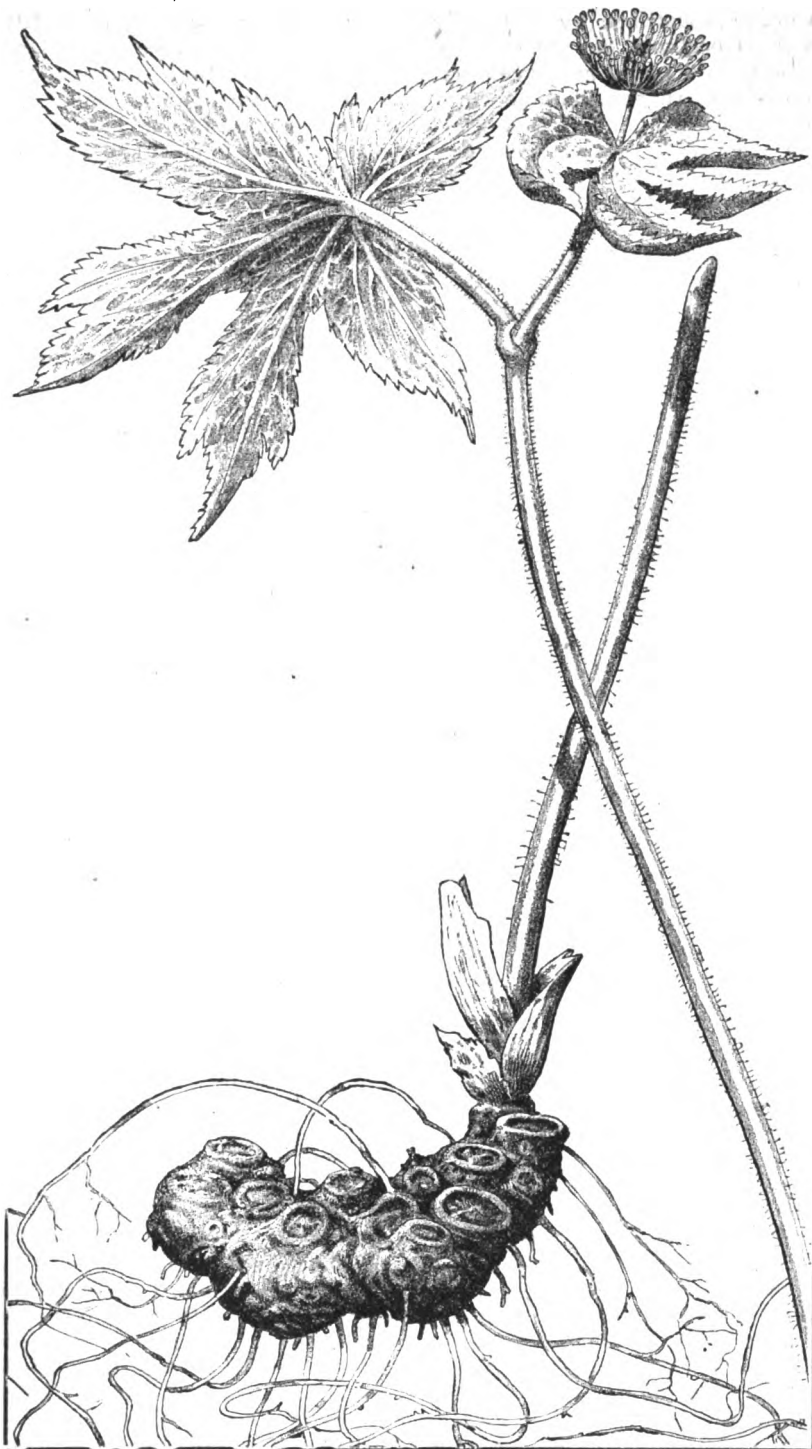
The fruit ripens in July, and is a red berry, in appearances closely resembling a large red raspberry. Indeed the plant from this resemblance is often known as ground raspberry.

A CASE OF FRUJAHR-CATARRH.

A Paper read before the Philadelphia County Medical Society, September 17, 1884.

By HOWARD F. HANSELL, M.D.

Michael Wood, æt. 12, applied at the Southwestern Hospital, in the early part of July, on account of inflammation of the eyes. His father, who accompanied him, stated that every spring, as soon as the cold weather had gone, Michael's eyes began to grow red. This statement is indefinite, but, as far as I can learn, is strictly true, for its advent is simultaneous with the onset of warm weather, whether it be in March or delayed until May. The eyes slowly grew worse during four weeks, when the acme was reached. The patient should be seen in the middle of the summer; then the disease is at its height, and the eyes present a remarkable appearance. However, the fall is not yet far enough advanced to have obliterated all the charac-



HYDRASTIS CANADENSIS—Golden Seal.

[From "The Drugs and Medicines of North America."]

teristic signs of his affection. These peculiarities are described by Arlt in his "Klinische Darstellung des Auges," and by Sæmisch in Græfe and Sæmisch's "Handbuch der Augenheilkunde," in almost the same words. There is an elevation of the edge of the cornea, caused by infiltration of a gray, yellow pulpy mass. On the limbus or margin are found small, gland-like, solid, light gray or yellow, somewhat transparent bodies, which appear on the nasal or temporal side, or both together, and slowly encroach on the bulbar conjunctiva. As they grow along the edge, they advance on the transparent part of the cornea, and are sharply lined from it, while they imperceptibly fade into the conjunctiva. They are tough, immovable deposits, and do not yield to the probe. The conjunctiva in pronounced cases has lost its transparency, and its enlarged vessels run into the elevations on the cornea. The color of the conjunctiva differs from that of inflammation, as well as from the normal; it is steamy, dull, pale red, wanting the freshness and liveliness of acute catarrh. This is due to the light serous infiltration of the part.

This condition of the conjunctiva is called by German authors, "Frühjahr-Catarrh," and is without a name in English. The title is a bad one, because the affection is not a catarrh, neither does it exist only in the spring. It is a periodic or annual hypertrophy of the conjunctiva and the neighboring section of the cornea. An acute catarrh may be associated with it, as was in this case during part of July. This rapidly disappeared under treatment. The hypertrophy, however, resisted all treatment. For several weeks I kept the eyes under atropia, and three times each week I applied a crystal of sulphate of copper to the lids without the slightest benefit. Since August 1 the treatment has been stopped. The disease continues to appear regularly at the beginning of warm weather, reaches its maximum intensity in four weeks, disappears after the first snow, leaving no trace. This is repeated for a period usually of four years, although it may run on many years longer.

Treatment has little or no effect; the only references which I have been able to find are the two mentioned above, although I have searched the works of Stelwag, Carter, Schweigger, Jacobson, and Soelberg Wells.

DISCUSSION.

DR. E. O. SHAKESPEARE: I have seen this affection a few times. It is one which I have supposed to be peculiar to the spring of the year, having in my mind two cases that so occurred, but I have seen one which appeared semi-annually. As to the pathology, I am at a loss to form an adequate understanding.

DR. SAJAOUS: I would like to know if there was much pruritus.

DR. HANSELL: These cases occur very rarely in this country. Dr. Harlan, to whom I sent the case, in his many years of clinical experience at Wills' Hospital had never seen a single instance of it. Neither have I been able to find any reference to it among American writers. In answer to the question as to its connection with hay fever, I may say that this disease has a different history and pathology, and in the reported cases has been associated with no other affection. It bears a closer resemblance to pterygium than to any other eye disease.

WOUND OF THE TENDO ACHILLIS.

S. R. VOORHEES, M.D., Mason, O.

In June, 1882, Mr. J. K—, aged 65, farmer, was having some mowing done on his farm, and having a horse that refused to pull, stepped in front of the sickle to urge the horse to pull, when the team suddenly sprang forward and run the sickle against his right ankle, cutting the tendo Achillis entirely off and wounding the external malleolus.

He was taken home, but refused to send for a physician, as he had heard if this tendon was cut off it would never unite, and if he could not walk without crutches he wanted to die.

As this was about 10 a.m., he did not conclude to send for a physician till evening, and would not have sent then, had not the "jerking," as he called it, of the tendon hurt him so that he could not endure it.

I arrived about 10 p.m., and found him on the bed suffering from the spasmodic contraction of the gastrocnemius and soleus muscles. In order to flex his foot, as he thought it was then extended, he would contract the tibialis anticus and peroneus muscles, and as there was no counteracting influence the contraction would be unendurably painful.

Before my arrival he had bound it up with coal oil which he said relieved the smarting pain as soon as applied.

I concluded to stitch the integument together and extend the foot as far as it could be extended, and keep it secured in that position, and see if the tendon would not unite. Accordingly, I applied ten or twelve stitches, at the same time having an assistant to keep the foot securely extended while I performed the operation. I then applied a piece of rubber adhesive plaster four inches wide and about twenty-five inches long, to the bottom of his foot, extending it over the heel along the calf of his leg to his knee, while the foot was extended, and secured it there by circular adhesive straps. The other necessary bandages were then applied, and directed him not to try to flex his foot, nor attempt to put it on the floor. He expressed himself as feeling perfectly comfortable, and said that he did not know a doctor could relieve one so quickly.

I kept the leg in that position for five weeks, removing the straps and dressing to be replaced by others, as needed. He suffered some pain from the wound of the external maleolus.

The wound healed nicely, and in about five weeks I removed the dressing and gave him a pair of crutches and told him not to bear any weight on that foot for five or six weeks. After that time he could walk very comfortably with the assistance of his cane, and in about a year he said it seemed about as strong as the other.

Another case involving the same principle, happened about the same time.

A boy aged 10, with a mowing scythe, tried to climb over a rail fence. He first put the scythe on the fence, then in climbing through between the rails, he drew his left leg along the edge of the scythe and cut the outer side of his left leg between the knee and ankle, separating the tibialis anticus, and partially the peroneus tertius. He could not flex his foot, and when he tried I could see the drawing apart of the separated muscle.

I sewed up the wound, applied a few strips of adhesive plaster, flexed his foot, secured it in that position, and kept it in that position for three weeks. At the end of that time, he was allowed to walk around with the aid of crutches. In five or six weeks the wound was perfectly

healed, and the leg as strong as the other.

In all the wounds where the muscles or tendons are wholly or partially separated, I relax the part and keep it in that position until the separated parts unite. I think the great mistake that is often made, is by not sufficiently relaxing those parts so that muscular fibres can form a union.

Correspondence.

HYDROCHLORATE OF COCAINE IN OBSTETRICS.

COVINGTON, KY., Nov. 25, 1884.

Editor Lancet and Clinic:

The deep interest manifested by the medical profession in the wonderful anæsthetic properties of the hydrochlorate of cocaine, is my excuse for troubling you with the report of the following case: Mrs. D., of Campbell County, Ky., aged forty-four years, the mother of ten children, has suffered for eight years from a lacerated perineum, involving some fibres of the sphincter ani muscle. There was prolapsus of the uterus, bladder and rectum, giving rise to a very considerable amount of irritation of the vaginal mucosa. The nervous irritation sequent upon her condition had impaired the functions of the brain and nervous system to such an extent as to induce her on several occasions to attempt suicide.

She was brought to my private hospital five or six weeks ago, for the purpose of having the perineum restored; her condition, however, was so unpromising that it was thought best to postpone the operation until her general health was somewhat restored.

Three weeks ago an effort was made to bring her under the influence of chloroform for the purpose of operating, but in this we signally failed,—every time she was brought under its influence respiration would cease. We would restore her and try again, but the same condition would recur. We then tried ether with the same result, the last time affecting the respiration so profoundly and we had such difficulty in restoring her that we thought best to take no further risks.

Our only chance then was the hydrochlorate of cocaine.

Mr. G. A. Zwick, our pharmacist and chemist, had already telegraphed to New

York for the cocaine for me, but it was not to be had for love nor money. In this dilemma he very kindly came to my assistance and made me a preparation of the drug in his own laboratory.

A few days since I successfully performed the operation with the aid of this local anæsthetic.

In preparing the case for the operation the vagina was thoroughly washed and dried, then a cloth saturated with a five per cent. solution was laid between the labia, extending into the vagina. This was removed twice. In addition I threw into the cellular tissue on the side of either labia, with a hypodermic syringe, ten drops of the solution. I then waited about twenty minutes, finding the parts sufficiently anæsthetized, I proceeded with the operation, paring the mucous membrane as far as necessary and introducing my stitches without pain to the patient until the introduction of the fourth and last stitch, when the influence of the cocaine having partially worn off she complained of its hurting her.

Comments, under the circumstances, are useless. I merely give you the facts in the case. The patient is an exceedingly nervous, sensitive woman, one that would revolt at the slightest pain, and to have been able with the aid of the cocaine to have operated upon her satisfactorily, is, to me, evidence unmistakable that it possesses the qualities that have been claimed for it, and that it will prove a blessing to both surgeon and patient in most of the minor operations of surgery.

The administration of chloroform and ether is of frequent occurrence with me, still I never give either without some uneasiness and dread. J. D. COLLINS, M.D.

FOREIGN CORRESPONDENCE.

COCAINE AS AN ANÆSTHETIC AND ANALGETIC FOR PHARYNX AND LARYNX.

VIENNA, November 12, 1884.

Editor Lancet and Clinic:

The new anæsthetic for the larynx and pharynx, cocaine, introduced by Dr. Edmund Jelinck, in his paper read before the Imperial Society of Physicians, October 24, is being used daily with the most gratifying results in the Vienna throat clinics. Patients who visit the clinics for the first time and those who refuse to tolerate the probe after repeated introductions are

chosen to demonstrate its efficacy. Within one to fifteen minutes after the application of the twenty per cent. solution to the larynx and soft palate, endo-laryngeal manipulations are deliberately and safely undertaken, and while the heretofore most available local anæsthetic has only been resorted to after repeated introductions of the probe have failed to allay the objectionable reflex irritability or when early interference was demanded, cocaine is used at once apparently with impunity. In a recent case, after the general anæsthetic (chloroform) had been administered to a resisting child, in the sitting position, it was found impossible to proceed with the operation owing to the accumulation of mucus in the larynx; when the patient had rallied cocaine was resorted to and the papilloma removed with but little difficulty from the vocal cord.

The ten per cent. aqueous alcoholic solution of the muriate of cocaine as used by Dr. Jelinck is sufficient to allay slight reflex and moderate pain, but for more irritable cases and for operation a twenty per cent. solution must be used.

J. E. BOYLAN, M.D.

THE SO-CALLED RESOLVENT ACTION OF CALOMEL.

Editor Lancet and Clinic:

In your issue of last week I notice a selection from the *Archives of Pediatrics*, quoting Chapois as saying that he had used calomel in often-repeated and long continued minute doses, upon a boy of twelve years, who was in his 18th day of acute pneumonia, with no abatement of his fever up to that time, notwithstanding he had blistered and leached the boy. He referred to the calomel as having acted as a "resolvent," evidently from the manner in which he introduced the subject, meaning that it acted directly upon the congested and thickened lung-tissues, the immediate result of this direct action upon the tissues being a reduction of the heat and pulse-rate, the mouth and tongue became moist and a liquid evacuation occurred from the bowels.

Now, let us admit that the results followed as above stated; because nothing could be more natural, though an entirely different process than that claimed. It is evident from the report as given us, that proper elimination had not been kept up, hence the case progressed to the 18th day with

no abatement of the fever, the pulse remaining at a high rate, and the tongue and mouth being dry. We doubt not that he might have added that the skin had a jaundiced hue. This was no doubt one of those cases, which from neglect in availing ourselves of the avenues of relief so manifestly open at all times, that the state misnamed "typhoid pneumonia" sets in. It is safe to say that the fever of pneumonia, or to go further, any fever occurring in a presumably well-fed and nourished young subject, accustomed in health to much of the time in the open air, could not continue to the 18th day, nay, not to the 8th day, without suspending the action of the liver mainly, and of the kidneys to a degree. Chapois's minute doses of calomel, given every hour for fifteen or twenty hours, would in nine cases out of ten, give relief precisely as he states it to have come to the boy, and to the other cases similarly treated afterwards. But we beg leave to dissent from the opinion that the relief came through any other process than the restoring of suspended action to the organs by which the system disposes of offending material, whether this be held in suspension in the blood, or be in the form of engorged walls of air-cells in the lungs. If the report had mentioned the character of the liquid movements said to follow the use of the minute doses of calomel for the time named. We would doubtless have been told of their highly vitiated character, the giving off of which is always attended by a reduction of abnormal temperature, relief from undue strain upon the nervous system—always an accompaniment—and quiet sleep where wakefulness ruled before.

The plan of treatment was certainly very defective that permitted the fever to continue until the 18th day without abatement; and in common with most practitioners who have observed during four decades or more the relief which invariably occurs to the class of cases mentioned, when aid is given to engorged secretory organs. We see serious objections to attributing to calomel a direct action on the absorbent system, when relief was reached through a different process. No reparative process can go on in the system even moderately well, without the avenues for the escape of offending substances be kept in action. The relief from pain afforded by an anæsthetic is hardly more marked than that which follows the action of minute doses of a suitable altera-

tive, when the action of the organs referred to, through the effects of an inflammatory or otherwise febrile state, is suspended.

G. SPRAGUE, M.D.,

Chicago, Nov. 29, 1884.

Society Reports.

ACADEMY OF MEDICINE.

Meeting of October 27, 1884.

W. H. WENNING, M.D., G. A. FACKLER, M.D.,
Pres't in the Chair. *Secretary.*

DR. E. W. MITCHELL read the report of a case of

Sporadic Cholera.

This case was thought worthy of report for the following reasons:

1. The typical choleraic symptoms present, in the absence of any other cases in the neighborhood, so far as known.
2. As illustrating the influence of morphia in controlling the disease.
3. The occurrence of partial suppression of urine, with a high per cent. of albumen and tube casts, persisting for a number of days.
4. Very marked clinical aspects of uræmic poisoning.
5. Prompt response of the system to remedies which were selected upon the indications of the symptoms which were believed to point to certain etiological and pathological conditions.

Mrs. X.—Avondale, 45 years of age, living under favorable hygienic conditions, and in good health up to the time of the present illness. For four or five days preceding my first visit she had been suffering from diarrhœa, for which some domestic remedies were taken; but she continued up and about, engaged in her usual household and social avocations. When seen early on morning of Aug. 10th, she was having frequent watery stools accompanied by little pain. She had vomited a few times. The discharges were promptly arrested by the hypodermic injection of morphia (gr. $\frac{1}{4}$). But the vomiting continued annoying for several hours longer. During the following night she had again very frequent copious passages of clear muco-serous fluid. She was becoming exhausted, face pinched, extremities cold, severe cramps in limbs. The discharges were again promptly arrested by the hypodermic injection of morphia.

On the next day the patient was greatly exhausted, the extremities were cool, the skin dry and harsh, the face had a haggard and shrunken look. No urine was passed during the forenoon. In the afternoon the catheter was used and 6 oz. of urine obtained, which examination proved to contain a large per cent. of albumen.

Dr Reamy, who had seen the patient in consultation the preceding day, saw her with me again morning and evening. Under the use of stimulants, in small quantities, and the application of heat the patient gradually rallied from the condition of collapse. Hot packs were applied to the lumbar region to act upon the kidneys. Hot milk in small quantities was given as nourishment. The evening temperature was 101°, P. 120. The patient slept most of the night.

On the third day, the condition was one of stupor; the patient could be easily aroused to take nourishment, but immediately relapsed into a state of complete indifference to all surroundings, or a heavy sleep. At 8 A.M. the temperature was 98°, taken in the mouth P. 96. Evening temperature 99° P. 88. A small quantity of urine was passed during the day, still highly albuminous, and containing epithelial casts.

On the 4th day the temperature was 98° taken in the mouth—P. 86. This temperature was thoroughly tested by both Dr. Reamy and myself with two thermometers. In the axilla the thermometers marked barely 97°, and once or twice in the mouth the temperature was a little below 98°. During this and the fifth day the temperature remained at 98° or a fraction below. During this day, the 4th, about 12 oz. of urine was passed, albumen somewhat diminished, tube casts still present, but only found by careful search. In the afternoon she vomited once, and again in the evening, both times after taking nourishment. During the night 10 oz. of urine passed.

5th day, T. 98°, P. 95. The condition of sopor gave place to one of extreme restlessness, the patient tossing about in bed, and turning from side to side almost constantly. She complained of great thirst. Everything taken upon the stomach was rejected, and accordingly only carbonic acid water was allowed for several hours, but did not entirely stop the vomiting. In the afternoon $\frac{1}{2}$ grain doses of calomel

were given every two hours, still later the carbonic acid water was withheld and teaspoonful doses of hot milk administered every half hour. In a short time the vomiting ceased and the patient passed a fairly comfortable night.

6th day, T. 98½° P. 86. Patient rested comfortably, urine passed freely, albumen much less, no tube casts were found. Two small stools of liquid feces. Milk and lime-water taken freely. From this time convalescence was uninterrupted, although tedious. The albumen did not entirely disappear from the urine for several days, but no tube casts were found. Dr. Reamy discontinued his visits.

After the patient had rallied from the collapse on the second day no stimulants were administered.

The main reliance in the treatment was upon the administration of fluids and the external application of heat—milk and carbonic acid water were administered freely except when the irritability of stomach prevented. Hot poultices over the lumbar region were kept up much of the time—a mustard draft was occasionally applied along the spine, and hot applications about the limbs. In the way of drugs but little was given, some digitalis was given after the stomach became less irritable. Benzoic acid was also given. It is worthy of notice that no eclamptic movements were present notwithstanding the decided manifestations of other uræmic symptoms.

The relationship of sporadic to true cholera is a question which has assumed new interest since the discovery of a micro-organism peculiar to the latter. The inquiry immediately arose, have we now the means of differentiating by the microscope two diseases which hitherto we have been able to distinguish only by the difference of the two as to severity, and the result as to fatality?

Koch in the discussion of his report of his researches in *Cholera Asiatica*, before the Imperial Board of Health at Berlin, stated that he had failed to find the "comma" bacillus in the discharges of Cholera Nostras. Since that time however, Finckler and Prior of Bonn report (*Deut. Med. Wochens.*, Sept. 4th, 1884.) the discovery in these discharges of a comma bacillus which cannot be microscopically distinguished from that of true cholera. If these results be confirmed we shall be driven to the conclusion that the cause of sporadic

cholera is an attenuated virus of true cholera. The germs of Asiatic cholera, it may be have gone through a series of natural "cultures" which has deprived them of much of their virulence. In time of epidemic the case related would no doubt be classed as a case of true cholera. Scanty urine persisting so long after the attack with so high a per cent. of albumen would seem to be unusual following cholera morbus, as I do not find it mentioned in our ordinary text books.

DR. CONNER inquired whether the case just reported might not have been one of renal trouble.

DR. E. W. MITCHELL answered that there was an entire absence of the history of renal disease. The tube casts did not appear until the third day, and were entirely absent after the sixth.

DR. REAMY stated that he had acted as consulting physician in the case reported. The woman had enjoyed excellent health prior to the attack of diarrhoea. She complained of no pain in the back. No infiltration of the cellular tissue was manifest, nor was there any disturbance as to the quantity of urine. The violence of the attack was manifested in the discharges of the bowels, and the cramps in the legs. The renal symptoms were rather preceded than followed by the diarrhoeal disease.

The prior existence of renal disease may be excluded on account of the previous excellent health and the rapidity with which the symptoms subsided in the ordinary way. The latter, together with the violence of the renal symptoms, the stage at which the coma came on and the continuance of the sub-normal temperature, are the interesting features of this case.

Cases of renal disease have certainly been met with in which no signs of the malady were evident, but speaker doubts whether symptoms which are really present have not passed unnoticed. Still these patients are at some time overwhelmed with different symptoms than noticed in this case, and the manifestation of the trouble is not by diarrhoea, rice water discharges and cramps in the legs. A mistake in diagnosis is only made possible by a confusion of the order of symptoms. In Dr. Mitchell's case, the diagnosis was confirmed by the progress of the case. The duration was almost too long for cholera morbus, but not long enough for renal disease. Had the latter existed to such an extent

as to bring on the symptoms observed in this case, it would certainly have lasted longer and recovery would not have been so permanent.

DR. CONNER inquired how much of the coma may have depended upon the morphia administered.

DR. MITCHELL answered that had the coma not come on so long after the exhibition of morphia, it might have been attributed to the drug.

The first hypodermic of gr. $\frac{1}{4}$ checked the diarrhoea but not the vomiting. The second hypodermic of gr. $\frac{1}{4}$ stopped both the vomiting and the diarrhoea. On the following day exhaustion was marked with cool extremities and dry harsh skin. But in the evening the reaction was complete and only the next day the temperature fell.

DR. REAMY said that coma did not come on at the proper time to be dependent on morphia, unless, as is frequently the case in Cholera Asiatica, the excessive depletion delayed absorption.

DR. ZENNER thought that the interesting point, brought out indirectly in the report of the case, is the relation existing between sporadic and Asiatic cholera. The essayist mentioned the fact of Koch's discovery. The belief in the comma-bacillus as the cause of cholera, is based on the fact that it is so abundantly found in this and no other disease. Koch has not been able to find this bacillus in cholera morbus. Hence the discharges should be examined at an early hour in order to make a definite diagnosis. Suppose that a case occurring at some distance from the seat of an epidemic, should develop suspicious symptoms. Here it is important to positively establish the character of the trouble.

The essayist mentioned in the report that the comma bacillus has been found in the discharges of cholera morbus. Speaker thinks that decidedly more positive proof would be demanded to annul Koch's statements. Even if true that it is found in cholera morbus, yet it would be difficult to believe that such a relationship exists as the essayist claims. Whatever the cause, we cannot but believe that the disease (cholera) has a germ of its own.

Cholera morbus exists all over the world and in isolated cases, and no relationship can exist between it and Asiatic cholera.

DR. RANSOHOFF said that he had seen an account of Klein, of London, taking a

large dose of comma bacilli internally, and still no cholera developed. Certainly a healthy man may take various germs, and still not acquire the disease. If the same germ is found in sporadic and Asiatic cholera, we cannot believe that the latter is due to the bacillus.

The case reported is certainly one of cholera morbus, such as we meet with two or three times a year, and attended by renal complications, about once in 5 or 6 years.

The speaker also inquired concerning the benefit expected from the use of digitalis and benzoic acid.

DR. REAMY stated that digitalis was prescribed when the heart's action was feeble and the amount of urine alarmingly small.

Benzoic acid is a popular remedy for albuminuria.

DR. ZENNER said that the statement that the comma bacillus is found in the mouth must be received with a great deal of caution.

Koch is a very precise and most thorough investigator, and if this most careful of mycologists tells us that he has not been able to find the comma bacillus otherwheres than in cholera patients, we can certainly accept it with a great deal of faith.

DR. NICKLES regretted that the essayist did not dwell on the pathological conditions, but simply gave diagnosis and treatment. In the majority of cases of cholera morbus, some material in the digestive tract is undergoing decomposition, irritation occurs, peristaltic action is excited, the bowels are emptied. This condition lasts for some time, catarrhal inflammation takes place and rice-water discharges appear. It was formerly taught that the latter phenomenon is due to desquamated epithelium. The desquamation is now considered a post mortem occurrence.

Albuminuria does not prove the existence of kidney disease. It will occur in various conditions. Severe congestion of the kidney will be attended by albuminuria, and if the condition continues for some time tube casts will be found, and still no serious disease of the kidney be present. Albuminuria is a frequent symptom in scarlatina or typhoid fever, without oedema or other symptom of renal disease being manifested.

In ordinary cases of cholera morbus, opium is, no doubt, the best remedy. Opium has a decided better effect upon the peristaltic action of the bowels than mor-

phia. In the case reported it was the wisest plan to give a hypodermic injection of morphia, since rapid action was demanded, although comparatively larger doses of morphia are demanded than of opium. If digitalis was given to increase the action of the heart; speaker can understand, but if given to increase the amount of urine a mistake was made. If kidney disease be present, one should hesitate to administer digitalis, since its principles are not easily eliminated and sometimes retained completely. Digitalis is certainly beneficial if the kidney trouble is functional. But if the disease is organic so as to make excretion of urine impossible, then digitalis is of no value.

DR. MITCHELL said that it was well known that traces of albumen and some tube casts were usually present in severe cases of cholera morbus, but the presence of so large an amount of albumen, persisting for so long, was rare. If the renal complication of cholera was caused by the depletion of the blood from the excessive discharges, he could very easily understand that in a case of sporadic cholera, in which the discharges were equally abundant, the same complication might be expected.

DR. NICKLES inquired what was supposed to be the pathology of the kidney trouble.

DR. MITCHELL replied that for a very full and clear exposition of the pathological conditions of the kidney in true cholera he would refer to Bartel's article in Ziemssens Encyclopedia. The pathological condition in such a case as that reported is doubtless the same. The theory of Bartel's in brief is, that the condition is one of arterial ischæmia, due to the loss of fluid from the blood. When the arterial pressure falls to a certain minimum there is entire suppression of urine. Above this limit we would have of course all degrees of diminution in quantity. Under diminished pressure the dilated vessels allow the transudation of albumen.

In regard to the drugs used he thought sufficient had already been said. According to Dr. Nickles' statements as to the conditions under which the administration of digitalis was advisable, this would certainly be the kind of a case calling for it. He would repeat as stated in the paper that chief reliance in treatment was placed upon the external application of heat and the administration of fluids in abundance.

Meeting of November 3rd, 1884.

Muriate of Cocaine.

Dr. W. W. Seely read a report on this subject. He had had a severe neuralgia in the right eye in the morning and it returned about 5½ o'clock. It occurred to him that it would be a good case for cocaine, as well as presenting a good opportunity for the Academy to witness the anæsthetic effects of the drug. (The remedy was instilled 9.50 o'clock, and Dr. Seely states that the neuralgia, which was entirely relieved in 2 or 3 minutes did not return until 12 o'clock, and then only slightly). The drug has the effect of contracting blood-vessels in some way, for in all cases the eye looks whiter the next day after its application.

Muriate of cocaine has been very successful in speaker's hand in reducing the sensibility of the eye in operations that required the introduction of the speculum, stitching of the conjunctiva or tattooing. In the few (4) cases tried for this purpose, no effect on the accommodation had been observed. A slight dilatation of the pupil follows, but not enough to incommode the patient.

The remedy had been used in the clinic on a case of phlyctenular conjunctivitis, and, as long as it was regularly administered the pain was entirely relieved. This occurred for two days, so that in this drug, we may perhaps have a valuable remedy for phlyctenular diseases.

An operation for strabismus was performed quite painlessly, except when the hook was introduced behind the tendon. The introduction of the speculum and pinching up of the conjunctiva were entirely painless. It has also no effect upon the sensibility of the iris. In the operation of iridectomy the iris remains as sensitive as it always is. The other steps of the operation are, however, painless. Gynecologists and surgeons are giving the remedy a trial in their respective fields. It has apparently an anæsthetic effect on all mucous membranes. It has been much employed in the throat, either by spray or by pencilling with a 5 per cent. solution. For the eye a 2 per cent. solution possesses sufficient strength. It was first reported at the Ophthalmological Congress, at Heidelberg, on the 14th, 15th, 16th, and 17th of September, '84, by Brettauer, who read a paper sent to him by Koller of Vienna.

PATHOLOGICAL SOCIETY OF
PHILADELPHIA.

Semi-annual Conversational Meeting,
Oct., 23, 1884.

The Vice-President, DR. SHAKESPEARE, in the Chair.

Dr. DELAFIELD, of New York, by invitation, read a paper on

The Pathology of Broncho-Pneumonia.

I shall offer for your consideration, this evening, some observations on the subject of broncho-pneumonia. I venture to do this for the reason that I believe that this particular lesion suffers more from the effects of tradition, from having been called catarrhal pneumonia, and from its relations to pulmonary phthisis. It is also doubtful whether the profession appreciates what a common lesion it is.

I do not mean that the real lesions and symptoms of the disease have not been described. They have been described by various observers; but the descriptions have been for the most part fragmentary, and have failed to give a true picture of the disease.

The current notions concerning the disease have remained somewhat obscure and indefinite. The prevailing ideas concerning broncho-pneumonia may be stated as follows:

That the terms broncho-pneumonia, lobular pneumonia, catarrhal pneumonia, and capillary bronchitis may all be used to designate the same lesion. Although it is customary to use the words broncho-pneumonia and lobular pneumonia when the disease occurs in children, capillary bronchitis when it occurs in adults, and catarrhal pneumonia when it is believed to be a form of phthisis.

That the inflammation begins in the bronchi, extends to the small and capillary tubes, and then to the group of air vesicles which belong to these bronchi, and that for this reason the hepatization assumes a lobular form.

That obstruction of the bronchi with inflammatory products frequently produces areas of atelectasis.

That the catarrh may become chronic, the products of inflammation in the air vesicles undergo cheesy degeneration, interstitial changes be developed in the framework of the lungs, and so a form of phthisis be produced.

This, I think, is a fair enough example of the ordinary accounts of broncho-pneumonia—accounts which fail to bring out the essential features.

Let us, then, turn to the conditions themselves—to the clinical symptoms and lesions of broncho-pneumonia as we all can see them for ourselves.

To approach the subject properly, we must consider the symptoms and lesions of acute bronchitis, as well as those of broncho-pneumonia.

First, then, of acute catarrhal bronchitis. This is a disease of very common occurrence, especially among children, but one which seldom proves fatal. Our knowledge of its lesions is derived from exceptionally severe cases, from cases which are complicated with other diseases, and from symptoms which we observe during life.

The inflammation involves regularly the trachea and the larger bronchi, less frequently the smaller bronchi also.

The first change seems to consist in a congestion and swelling of the mucous membrane of the bronchi, with an arrest of the functions of their glands. This is attended with a feeling of pain over the chest, a feeling of oppression, asthmatic breathing and a dry cough.

Fever and prostration are present in a degree corresponding to the extent and severity of the inflammation and to the age of the patient.

After this, the mucous glands resume their function with increased activity, the congestion and swelling diminish, there is a more rapid desquamation of the superficial epithelial cells, an increased growth of the deeper epithelial cells, and a moderate emigration of the white blood-cells. Sometimes the red blood-cells also escape from the vessels.

The patient now has less pain and oppression, the cough is accompanied by an expectoration of mucus mixed with epithelium, pus, and sometimes blood. After death the only lesions visible are the increased quantity of mucus, the growth of new epithelium, a few pus-cells infiltrating the stroma of the mucus membrane, and sometimes a general congestion. If the smaller bronchi are involved, they contain pus-cells.

In a moderate number of cases, especially in young children, certain accessory lesions are added. There may be a general congestion of the parenchyma of the lung,

and even a filling of some of the air-vesicles with inflammatory products. Still further, the filling of the small bronchi may lead to the collapse of the groups of air-vesicles to which they lead, and thus are produced areas of atelectasis, which may be further changed by inflammatory processes.

In acute catarrhal bronchitis, then, the inflammation involves regularly only the mucous membrane of the bronchi, and in this mucous membrane the only changes are: congestion, swelling, changes in the epithelial cells, and in the functions of the mucous glands.

As complications, we may find atelectasis, congestion of the parenchyma, and areas of diffuse pneumonia.

Now let us consider the symptoms and lesions of broncho-pneumonia.

This disease is of common occurrence in children as an idiopathic affection, and as a complication of measles, whooping cough, scarlet fever, and diphtheria. In adults it occurs less frequently, but in them also it may be idiopathic, may complicate the infectious diseases, and way follow injuries of the brain and spinal cord. Constitutional syphilis may also give rise to broncho-pneumonia, and in pulmonary phthisis the same inflammation is an important lesion.

In children, while the inflammation always presents the same essential characters, yet there is considerable diversity both in the lesions and in the symptoms in different cases. Thus, in infants a few weeks old, often the only symptoms are rapid breathing, a febrile movement, prostration and death.

In older children there are well marked constitutional disturbances—fever, prostration, and cerebral symptoms, in some cases the cerebral symptoms being excessively developed. The breathing is rapid, there may be cough. The physical signs are those of bronchitis alone, or of bronchitis with consolidation of the lung. If there is consolidation it is developed slowly, and disappears slowly. Not infrequently successive portions of the lung become consolidated. The disease terminates in the death of the patient, in recovery, or it assumes a chronic character. This disposition to become chronic is one of the characteristic features of broncho-pneumonia, in which it differs from acute bronchitis and lobar pneumonia. The cases vary, however, in the degree in

which this tendency to become chronic is carried out.

In some children the disease after running its regular course of one or two weeks subsides, the constitutional symptoms are less marked, and the child seems better in all respects. But yet the physical signs of consolidation continue, there is a slight rise of temperature and convalescence does not fairly begin. In this condition the child may remain a number of weeks and then recover entirely, except that the percussion note and the breathing remain somewhat changed.

In many such cases as these the recovery is permanent and the child has no further trouble. But in other cases, after the lapse of several months, the child is attacked with acute general tuberculosis. Thus it is not uncommon in children's asylums for an epidemic of measles complicated with broncho-pneumonia to be followed after the lapse of a year by an epidemic of acute tuberculosis.

In other children the course of the disease is more protracted. The physical signs of consolidation continue, there is a febrile movement, the child has no appetite, it gradually emaciates and dies at the end of several months. These cases resemble pulmonary phthisis in their symptoms, but they are really only examples of a broncho-pneumonia which has become chronic.

In still other children the physical signs and the constitutional disturbances continue, but the child does not succumb to the disease. It continues to live with the evidences of a chronic bronchitis which go on year after year. So the child may grow up to adult life, sometimes better, sometimes worse, never entirely well. Cough, expectoration, dyspnoea, occasional fever harass the patient at intervals. The lung becomes more and more solid, the bronchi more dilated, the pleura thicker, and the affected side of the chest more retracted.

In the cases of acute broncho-pneumonia which die within from two days to three weeks, there is some variety in the *post-mortem appearances*.

The lungs may be large and well aerated, but on section the cut ends of the medium sized and smaller bronchi are unusually prominent and thick, and around them are little zones of hepatization of red, or gray, or white color. This appearance of the

lung may be further modified by a cylindrical dilatation of the thickened bronchi.

In other cases the lungs are denser and more congested, and a larger or smaller portion of them is consolidated. The consolidation portions are unaerated, dense, and smooth, of red color, or pinkish-gray, or dark red. Or the other color may be mottled—small, rounded gray or whitish areas surrounded by red hepatization.

The distribution and extent of the consolidation also vary. The hepatized areas may be small, encircle the bronchi, and situated at some distance from each other. Or they may in some one lobe or part of a lobe be close together, and between them is a more diffuse hepatization so that this part of the lung may be completely solid.

The appearance of the consolidated lung may be further changed by a cylindrical dilatation of the bronchi.

In still other cases the consolidated portions of the lung are of some size and of somewhat regular shape as if they were portions of lung corresponding to bronchi. These portions are dense, unaerated, of dark red color and somewhat shrunken.

If the inflammation has become chronic, then over one lobe or part of a lobe the pleura is thickened, bands of fibrous tissue run into the substance of the lung, and the lung tissue is dense, hard, and unaerated.

When we examine these lungs more minutely we notice first some peculiarities which belong to them because they are the lungs of children and not of adults. The bronchi and the connective tissue frame-work of the lungs occupy a larger relative space than they do in the lungs of adults; and in any inflammation of the lungs they are apt to take a more prominent share. The air vesicles are small and products of inflammation which have been formed within them are absorbed slowly and with difficulty. The walls of the vesicles are lined with a nearly continuous layer of epithelial cells. When the vesicles are inflamed there is a greater production of new epithelium and a less of fibrin than in adult lungs. The small size of the air vesicles render a simple congestion and dilatation of the capillary vessels within their walls a more serious condition than it is in adults. The bronchial glands are more regularly and intensely inflamed. These peculiarities of the child's lung seem to account for its liability to certain forms of inflammation.

The same exciting causes apparently produce in a child under five years of age, broncho-pneumonia; in a person between the age of five and fifteen, broncho-pneumonia, or lobar pneumonia; in an adult, lobar pneumonia.

Now let us consider more in detail the lesions of broncho-pneumonia in children.

The trachea and large bronchi are congested and coated with mucous as in acute bronchitis; but in the smaller, and to a less extent in the capillary bronchi, the changes are of a different character. In these small bronchi the entire thickness of their walls is infiltrated with cells—partly new connective tissue cells, partly pus cells. This change may affect the small bronchi equally in all parts of the lungs, or it may be confined to those situated in one lobe or part of a lobe.

Around every bronchus, of which the walls are infiltrated with cells in this way, is a zone, either of intense congestion or of pneumonia, the inflammation extending directly outwards from the bronchus to the surrounding vesicles.

In the zones of peri-bronchitic pneumonia, the walls of the air vesicles are infiltrated with cells in the same way as are those of the bronchi. The cavities of the vesicles are filled with pus and epithelium, or with an organized tissue composed of a basement substance and cells.

These constitute the essential features of the lesion—a bronchitis which involves the *walls* of the bronchi, and a pneumonia which involves the vesicles *surrounding* the bronchi, and which produces changes in the *walls* of the vesicles as well as in their cavities, while the inflammatory products within the cavities of the vesicles are not only pus and fibrin, but also organized tissue.

To these essential lesions are often added other accessory changes. The bronchi, of which the walls are infiltrated with cells, may be dilated. Between the zones of peri-bronchitic pneumonia the lung is congested, and there may be areas of diffuse red hepatization, which do not, however, correspond to bronchi. There is often a layer of fibrin on the pulmonary pleura. There may be areas of atelectasis corresponding to obstructed bronchi.

The bronchial glands are swollen, and the seat either of simple or of tubercular inflammation.

When the broncho-pneumonia passes

into the chronic condition, the inflammation usually persists only in part of a lobe, or a single lobe, while the rest of the lungs return to a normal condition.

In that portion of the lung in which the inflammation persists, we find the small bronchi with their thickened walls and their zones of peri-bronchitic pneumonia. The number of bronchi involved may be moderate, and then a section of the lung will look as if it were studded with fibrous nodules. Or most of the bronchi may be involved, the zones of peri-bronchitic pneumonia are close together and the entire lung tissue is dense and solid.

In either case the bronchi may be dilated and the pulmonary pleura thickened. As the inflammation goes on, its interstitial character becomes more and more marked until the affected portion of the lung becomes converted into a mass of fibrous tissue, in which the bronchi still remain, while the air vesicles are obliterated. The blood vessels, however, are, for the most part, not obliterated, so that the lung does not become necrotic or degenerated. Still occasionally areas of cheesy degeneration exist.

These are the characteristics, then, of the broncho-pneumonia of children.

In adults broncho-pneumonia occurs in one of four forms: As an idiopathic inflammation of acute and severe type; as a sub-acute inflammation; as a complication of the infectious diseases and of lesions of the brain and cord; and as one of the lesions of phthisis.

1. The acute idiopathic broncho-pneumonia of adults.

The invasion of this disease is acute and severe.

The patients have rigors; pains in the head, back and chest; vomiting and marked prostration. The temperature runs between 102 and 105; the pulse is rapid; the breathing is rapid and unsatisfactory. The cough is at first dry, later accompanied by profuse muco-purulent and bloody expectoration. There is venous congestion of the skin, albuminuria, and cerebral symptoms. When we examine the chest we find the percussion-note normal, or exaggerated, or dull. There are crepitant, subcrepitant and coarse rales, with sibilant and sonorous breathing.

The cases usually terminate fatally in about seven days. After death we find both

lungs large, heavy, and congested. There is fibrin on the pulmonary pleura. The trachea and large bronchi are congested and covered with mucus. The smaller bronchi contain pus, their walls are thickened and infiltrated with cells, and around them are zones of vesicles with their bloodvessels gorged with blood, and in their cavities epithelium, pus and fibrin.

3. The subacute broncho-pneumonia of adults.— This is a rare disease. It has a clinical history much resembling that of acute phthisis.

The patients are attacked with prostration, fever, cough, and muco-purulent expectoration, dyspnea, pain in the chest, coarse rales over the chest, with dullness over the consolidated portion of the lung. These symptoms continue, the patients lose flesh and strength, and die at the end of several weeks.

After death we find fibrin on the pulmonary pleura. The larger bronchi are congested, and coated with mucus. There is an irregular, diffuse, red hepatization, mottled with small white nodules from the size of a pin's head to that of a pea. In the diffuse red hepatization the air vesicles are filled with pus, epithelium and fibrin. The white nodules correspond to sections of the bronchi with zones of peribronchitic pneumonia. These bronchi are of small size, they contain pus, their walls are thickened and infiltrated with cells, and they may be dilated.

In the peribronchitic zones of pneumonia the walls of the vesicles are thickened and infiltrated with cells, but the bloodvessels remain pervious and can be injected. The cavities of the vesicles are filled not with pus and fibrin alone, but also with a basement substance of homogeneous or finely fibrillated character in which are imbedded polygonal, round and fusiform cells.

3. The complicating broncho-pneumonia of adults.— It is not uncommon for some of the infectious diseases, and some of the diseases of the brain and cord to be accompanied by the development of this disease of the lungs.

In typhoid fever we sometimes find a broncho-pneumonia exactly resembling the same lesion as it ordinarily occurs in children.

In pyæmia the inflammation is of the same kind, but is apt to be less extensive, involving only a part of one or both lungs.

With lesions of the brain and spinal cord

the changes are about the same as with pyæmia.

4. With phthisis, both acute and chronic, broncho-pneumonia often forms an important part of the morbid changes in the lungs, but yet it is never the primary or the only lesion. It is only one of a number of pathological changes which go to make up the complex whole of pulmonray consumption.

From what has been said, then, I would draw the following conclusions:

There is a form of inflammation of the lung which may be properly called broncho-pneumonia.

In children it is the most common form of pneumonia; in adults it is much less frequent.

It differs from bronchitis and from lobar pneumonia in that the inflammation effects changes in the walls of the bronchi and air vesicles, and this peculiar interstitial character of the inflammation exists from the outset.

The inflammation extends from the bronchi, not to the group of air vesicles into which they lead, but directly outwards to the vesicles which surround the inflamed bronchi, and in these vesicles the walls are changed.

The interstitial character of the inflammation is its most important feature. It accounts for the severity of the symptoms, the long continuance of the consolidation, the dilatation of the bronchi, and for the tendency of the broncho-pneumonia to become chronic.

The complicating tubercular inflammation of the bronchial glands may give rise later to general tuberculosis.

Broncho-pneumonia is not a form of phthisis. It is doubtful whether it is ever directly followed by phthisis; but it constitutes a part, and often an important one, of the lesions which constitute phthisis.

I have endeavored to describe in a somewhat incomplete way the characteristic lesions and symptoms of an ordinary disease. I am aware that I have described conditions which are familiar and which have been described before.

But the very common occurrence of this form of inflammation of the lung renders it all the more important. The varying character of the lesions has confused their essential and their accidental elements, and I think it worthy of consideration whether the views which I have advanced concern-

ing the pathology of the disease are not the true ones, namely, that the inflammation is essentially and from the outset an interstitial one, more or less complicated by other conditions.

DISCUSSION.

DR. PEPPER said he had listened with very unusual interest to the paper of Dr. Delafield, in which he had so distinctly and concisely set forth his views on this very common disease.

He thought that all who had listened to Dr. Delafield would agree with him in congratulating the author upon the clearness and force with which he had described a condition which had hitherto often been confused by prolix description and by want of definiteness in separating different anatomical conditions. In regard to the term "broncho-pneumonia," which Dr. Delafield prefers, he has proved by his anatomical studies of the infiltration of the bronchial walls and of the surrounding parenchyma, that this term is strictly applicable to the cases upon which this paper is based.

Dr. Pepper stated, however, that though chiefly from a clinical standpoint, he was inclined to prefer the term catarrhal pneumonia, as probably including the form described by Dr. Delafield, as well as certain other forms which seem to him to be necessarily included in a complete picture of the disease.

For instance, there are many cases in adults which begin with rigor, followed by high fever, with temperature of $102\frac{1}{2}^{\circ}$ to 104° F., with cough hard and dry at first and later with muco-purulent expectoration, with no very definite physical signs, careful examination will show local impairment of resonance, coarse crackling rales on deep inspiration and weak vesicular murmur. This condition may be limited to the apex or to the neighborhood of the root of one lung, or may occur elsewhere. The cases have a duration of from eight to twelve days, and terminates by lysis with resolution, though not rarely some cough remains, and the lung is sensitive and prone to recurring attacks, which in subjects predisposed to phthisis may induce that disease.

It seems to me difficult to regard these cases as anything else than mild catarrhal pneumonia; for this type of pneumonia agrees with other catarrhal affections in the wide range of severity presented by differ-

ent cases. On the other hand, there are cases much more common in children in which disease extends from the bronchial tubes into the lobules to which they lead.

The commonly accepted opinion that the lining of the alveoli and air vesicles are susceptible to catarrhal inflammation, appears to me well established. In such cases the disease may extend outwards to the peribronchial tissue, as emphasized by Dr. Delafield, and lead to secondary interstitial changes, and also in consequence of obstruction of the bronchi, atelectasis occurs; the aspiration of irritating bronchial products fills some of the alveoli, or finally they become impacted with the results of catarrhal inflammation of their walls. Subsequently, caseation with softening may give rise to small abscesses with breaking down of the walls of the air vesicles or with perforation of the pleura, or inspissation may occur with reabsorption of infectious material with the development of general tuberculosis.

It did not seem necessary to dwell upon the cases in which atelectasis occurred as a primary condition with the subsequent development of pneumonic centres.

It seems to him impossible to consider catarrhal pneumonia without taking the comprehensive view which would include all the varieties above indicated; though the term of "broncho-pneumonia," as used by Dr. Delafield, might be most appropriate to the special conditions described by him.

Allusion was made to the very interesting physical signs attending the course of atelectasis in the course of catarrhal pneumonia of children or of adults where considerable areas of the lung, or even an entire lung might pass into this state, to be followed before long by the re-establishment of respiration and the disappearance of the physical signs. Difficult questions of differential diagnosis may present themselves, requiring critical examination. From an allusion made by Dr. Delafield, it appeared that he regarded lobar pneumonia as being like broncho-pneumonia, induced by the ordinary causes of idiopathic inflammation. The argument does not favor all lobar pneumonia being a specific constitutional disease, or as dependent upon a special microbe, did not appear to Dr. Pepper to be conclusive, and he was glad to know, from the remarks of Dr. Delafield, that he holds the same view.

DR. BRUEN said he rose to call attention to the observations of Hamilton, of Aberdeen, in reference to the peculiar basement membrane of the bronchial tubes, which determines the chronicity of bronchitis, and probably the interstitial changes in chronic broncho-pneumonia. Hamilton, in speaking of the denseness of this basement membrane, gives it the importance of a fascia, which determines the direction in which the inflammatory products of bronchitis shall be absorbed, viz., by the lymphatics, rather than by free exudation into the bronchial lumen. The interlobular connective tissues are permeated with fibrous bands, which radiate from the fibrous coat of the bronchi toward the pleural surface. Dr. Bruen thought that if careful study of the lymphatics were made, that the absorbed products of an acute or subacute inflammation could be traced throughout the lung, finally leading to enlargement of the bronchial glands.

The importance of the basement membrane is further illustrated by the phenomena of pneumonikoniosis and anthracosis. Immediate absorption from the bronchial tubes does not occur, although the tubes are always exposed to carbonaceous matter as evinced by the blackened sputa, yet the tubes are unpigmented, the carbonaceous or organic dust being carried down into the alveoli, whence it is absorbed, and the whole parenchyma of the lungs and bronchial glands are blackened, but always strictly in the course of the lymphatics.

In children of a strumous habit forms of bronchitis of an obscure nature often occur. Congested areas near the root of the lung are recognizable—abundant mucous rales and frequently laryngeal spasm at intervals is an important symptom. These symptoms are often referable to enlargement of the bronchial glands—and the nervous symptoms are due to irritation of the pneumogastric nerves.

DR. J. C. WILSON asked whether Dr. Delafield designed to describe one variety of a group of affections to which the terms broncho-pneumonia, catarrhal pneumonia, desquamative pneumonia, etc., are somewhat vaguely and interchangeably applied, or to include the whole group in his account, and under the designation of broncho-pneumonia. If Dr. Wilson had understood the paper aright, he thought it certainly had referred to an especial variety of the affection in question, for there are

encountered cases which differ both clinically and anatomically from the disease described by Dr. Delafield, and in which the lesions spread not only in a direction internal from the affected bronchial tubes to the peribronchial structures, but also in the direction of the long axis of the tubes to involve the terminal (sub-pleural) vesicles, and this, according to widely accepted views, often without antecedent atelectasis.

DR. CARPENTER said that he had very little, indeed, to give of value in a pathological discussion, but would say, at the same time, that after thirty years' experience he had arrived at certain conclusions, not perhaps new, but which had been gathered in one set of cases, viz., anthracosis. They are a very striking set of cases. They all originate in a bronchitis, which differs from the ordinary form of that disorder in one very striking symptom, viz., great oppression of breathing. This oppression is, far greater than can be accounted for by ordinary bronchial inflammation. It depends on interstitial disease or peribronchitis. A true broncho-pneumonia is set up, the cause being a special one, viz., inhalation of coal dust. In these cases so great obstruction to the circulation is caused by the interstitial exudation that the circulation is very seriously embarrassed. The heart suffers—dilatation, or hypertrophy with dilatation, is produced, and a form of dyspnoea, known as miner's asthma, occurs. These cases are essentially chronic ones. He had only the day before seen a patient die with this disease who had been under his care for several years, and in whom no lesions but those of peribronchitis could be detected.

Many of these cases, however, in a chronic progress, do develop all the symptoms of phthisis. Slow alterations of structure occur, cavities form, and all the pathological conditions of the so-called fibroid phthisis are found on post mortem examination. He, therefore, claimed that these cases are entitled to constitute a special form of broncho-pneumonia. He agreed with Dr. Pepper that acute or subacute broncho-pneumonia left sensitive areas, leading often to subsequent phthisis. In his observation fibroid phthisis was not a true tuberculosis, but a chronic degeneration of lung tissue, due to a pre-existing broncho-pneumonia, such as he had observed in anthracosis.

DR. OSLER said that his experience in many points tallied with that of Prof. Delafield. In the broncho pneumonia of adults the pneumonic process, he believed, most usually spreads from the bronchi. He referred also to those cases of broncho-pneumonia following brain injury or disease affecting the pneumogastric centres. In such cases the disease is deeply seated and we find that the morbid process often surrounds the bronchi, but does not involve the terminal alveoli. The reverse is true in the case of children, in whom the disease is more peripheral, is nearer and may be just beneath the pleura. He was glad that Dr. Carpenter had raised the point as to anthracosis. Dr. Osler had been able to examine several cases of this affection in its very early stages, and could testify that it begins in the bronchi and thence extends to the peribronchial tissues. It is primarily, then, a broncho-pneumonia, and in every case he found small disseminated black lumps, resulting from localized broncho-pneumonia, which, by their fusion and extension, often produce a form of fibroid phthisis.

DR. TYSON had little to add to what had already been said. He had, however, first expressed his gratification at the simple clearness with which Dr. Delafield had presented the question. Dr. Tyson had been very much impressed with the diversity of the nomenclature of the disease under consideration, and it would be useful if we could agree upon some common term. For a long time desquamative pneumonia had seemed to him to be the best term, but from a study of the pathological histology, he thought the term peribronchial pneumonia more suitable. If now the adjective desquamative be added, we have a term which will still be more comprehensive and exact.

DR. TYSON thought that our understanding of the enormous peribronchial cellular infiltration would be much simplified if we lose sight altogether of the idea that there is essentially any form of inflammation except interstitial inflammation. He had come to the conclusion that there is no such thing as catarrhal or parenchymatous inflammation, the phenomena usually considered characteristic of these being only secondary. The wandering out and massing of leucocytes is the one essential factor of the inflammatory process. He would like to ask Dr. Delafield where he would

draw the line between this process and tubercular phthisis. He presumed that Dr. Delafield agreed with all other observers in admitting that broncho-pneumonia does sometimes terminate in tubercular phthisis, and when this occurs it is often difficult to say where the broncho-pneumonia ends and where the phthisis begins, although the extremes are easy of recognition.

DR. FORMAD would like to ask the lecturers instruction how to distinguish broncho-pneumonia in its *chronic* form from *tubercular* broncho-pneumonia. Like Dr. Tyson, he felt he was unable to draw a line of distinction between the two affections. Indeed, Dr. F. was unaware of a non-tubercular form of broncho-pneumonia in man until he saw Dr. Delafield's excellent records and representations of this lesion; this being explained by the fact that Dr. F. dealt almost entirely with the dead, while most of the speakers had shown that although broncho-pneumonia in its acute form was a common disease it did not prove fatal in the vast majority of cases, the patients either getting well or the disease assuming a chronic course.

DR. FORMAD clearly recognized acute broncho-pneumonia as an independent affection, although he remembered to have observed this lesion post mortem only in dogs, as when induced artificially by means of forced inhalations of a spray containing irritating particles. Dogs with such artificial broncho-pneumonia (even if tuberculous sputum was resorted to to induce it) Dr. Formad had observed always to recover within a couple of months, but if the dogs were killed before the end of the first month after the operation the post mortem showed invariably an acute broncho-pneumonia not distinguishable from that described by Dr. Delafield as occurring in man. Throughout the lung substance are seen small nodes of irregular outline in size resembling tubercles.

Under the microscope these nodules are seen to consist of mere unorganized collections of cells, often in a state of retrograde change, mixed with mucus and debris; the exudate being limited to the lumina of the bronchials and their pertaining group of air vessels (the acini) which they fill. On section these artificial boundaries give rise to the appearance of nodes. Very often epithelial cells and mucus from the bronchi have been seen intermingled with the purulent contents within the air vesicles, this

suggests that the exudate contained in the latter may have been partly aspired from the bronchi, during forced breathing, and was lodged in the air vesicle as foreign matter.

These lesions have been mistaken by stupid observers for true tubercles. Acute broncho-pneumonia in man appears to be a lesion perfectly analogous to the one described above in dogs. The human disease once becoming chronic, its distinction from tuberculous broncho-pneumonia ceases.

DR. DELAFIELD, in closing the debate, said that all the speakers had brought out what was one of the most difficult points concerning broncho-pneumonia, namely, its limitations. Strictly speaking, every pneumonia was a broncho-pneumonia, and the application of the term to a certain group of cases is of course arbitrary. He believed, however, that the name is most properly employed to designate the group of cases which he had described.

In anthracosis there is a chronic bronchitis, and also a chronic pneumonia, but yet the lesion is not, properly speaking, a broncho-pneumonia.

He did not believe that the inflammation travelled directly from the bronchi to the air vesicles, into which they entered, but that the appearances which simulated this were due to atelectasis.

He did not believe that broncho-pneumonia was a form of phthisis or lead to phthisis, but that phthisis had its own special anatomy from the very beginning.

DISEASES OF THE URIC ACID DIATHESIS. — By Wm. B. Gray, M.D., Richmond, Va., Academy of Medicine.

* * * "The careful record of these many cases shows that when the urine is of high specific gravity by reason of the presence of an abnormal amount of uric acid, Lambert's Lithiated Hydrangea, in my hands, has never failed to be of signal benefit. In cases in which the specific gravity exceeds 1015, it invariably gives good results.

"Guided by these indications, I have successfully used this preparation for nearly a year in the various diseases produced by the well known irritating properties of uric acid, finding that it acts like a charm in cystitis, excessive micturition, headaches, etc. I have also used it with satisfactory effect in many cases of gastric and abdominal dyspepsia, diabetes, Bright's disease, and rheumatism (particularly muscular). In fact, in all cases where uric acid is to be combatted Lambert's Lithiated Hydrangea will be found a potent remedy. I would not be without it. I generally give 3 i. doses four times a day."

THE CINCINNATI LANCET AND CLINIC

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Cincinnati, December 6, 1884.

The Week.

NINTH INTERNATIONAL MEDICAL CONGRESS.—The Committee on Organization of the Ninth International Medical Congress, to be held in the United States in 1887, met in Washington, D.C., on November 29, 1884, for the determination of the general plan of the Congress, the election of officers of the Committee, who will be nominated to fill the same offices in the Congress, and the consideration of questions of finance.

The following rules were adopted:

1. The Congress will be composed of members of the regular medical profession who shall have inscribed their names on the register of the Congress, and shall have taken out their tickets of admission. As regards foreign members, the above conditions are the only ones which it seems, at present, expedient to impose.

The American members of the Congress shall be appointed by the American Medical Association, by regularly organized State and local medical societies, and also by such general organizations relating to special departments and purposes, as the American Academy of Medicine, the American Surgical Association, the American Gynecological, Ophthalmological,

Otological, Laryngological, Neurological, and Dermatological Societies, and the American Public Health Association; each of the foregoing Societies being entitled to appoint one delegate for every ten of their membership.

The members of all special and subordinate committees, appointed by the General Committee, shall also be entitled to membership in the Congress, together with such other persons as may be specially designated by the Executive Committee.

All Societies entitled to representation are requested to elect their delegates at the last regular meeting preceding the meeting of the Congress, and to furnish the Secretary-General with a certified list of the delegates so appointed.

The work of the Congress is divided into eighteen Sections, as follows, viz.:

1. Medical education, legislation and registration, including methods of teaching; and buildings, apparatus, etc., connected therewith.

2. Anatomy.
3. Physiology.
4. Pathology.
5. Medicine.
6. Surgery.
7. Obstetrics.
8. Gynecology.
9. Ophthalmology.
10. Otology.
11. Dermatology and syphilis.
12. Nervous diseases and psychiatry.
13. Laryngology.
14. Public and international hygiene.
15. Collective investigation, nomenclature and vital statistics.

16. Military and naval surgery and medicine.

17. Experimental therapeutics and pharmacology.

18. Diseases of children.

3. The general meetings will be reserved for the transaction of the general business of the Congress and for addresses or communications of scientific interest more general than those given in the Sections.

4. Questions which have been agreed upon for discussion in the Sections shall be introduced by members previously nominated by the officers of the Section. The members who, open discussions shall present a statement of the conclusions which they have formed as a basis for debate.

5. Notices of papers to be read in any one of the Sections, together with abstracts

of the same, must be sent to the secretary of that Section before April 30, 1887. These abstracts will be regarded as strictly confidential communications, and will not be published until the meeting of the Congress. Papers relating to questions not included in the list of subjects suggested by the officers of the various sections will be received. Any member, after April 30, wishing to bring forward a subject not upon the programme, must give notice of his intention to the Secretary-General at least twenty-one days before the opening of the Congress. The officers of each section shall decide as to the acceptance of any communication offered to their section, and shall fix the time of its presentation. No communication will be received which has been already published, or read before a society.

6. All addresses and papers, read either at general meetings or in the sections, are to be immediately handed to the Secretaries. The Executive Committee, after the conclusion of the Congress, shall proceed with the publication of the Transactions, and shall have full power to decide which papers shall be published, and whether in whole or in part.

7. The official languages are English, French, and German.

No speaker shall be allowed more than ten minutes, with the exception of readers of papers and those who introduce debates, who may occupy twenty minutes.

8. The rules, programmes, and abstracts of papers will be published in English, French and German.

Each paper or address will appear in the Transactions in the language in which it was delivered by the author. The debates will be printed in English.

9. The officers of the General Committee on Organization are a President, three Vice-Presidents, a Secretary-General, and a Treasurer, and those elected to these positions will be nominated by the General Committee to hold the same offices in the Congress. All vacancies in these offices shall be filled by election.

10. There shall be an Executive Committee, to be composed of the President, Secretary-General, and Treasurer of the General Committee, and of four other members, to be elected by the General Committee. The duties of this Committee shall be to carry out the directions of the General Committee; to authorize such ex-

penditures as may be necessary, and to act for the General Committee during the intervals of its sessions, reporting such action at the next meeting of the General Committee.

11. There shall be a Standing Committee on Finance, composed of five members, to be appointed by the President, subject to the approval of the Executive Committee.

12. Those who are elected as Chairmen of the several Sections shall be thereby constituted members of the General Committee.

The officers elected are as follows:

President.—Dr. Austin Flint, Sr., New York.

Vice-Presidents.—Dr. Alfred Stillé, Philadelphia; Dr. Henry I. Bowditch, Boston; Dr. R. P. Howard, Montreal, Canada.

Secretary-General.—Dr. J. S. Billings, U. S. Army.

Treasurer.—Dr. J. M. Browne, U. S. Navy.

Members of the Executive Committee, (in addition to the President, Secretary-General, and Treasurer).—Dr. I. Minis Hays, Philadelphia; Dr. A. Jacobi, New York; Dr. Christopher Johnston, Baltimore; Dr. S. C. Busey, Washington.

The Executive Committee will proceed at once to complete the work of organization.

J. S. BILLINGS,

Secretary-General.

Washington, D.C., Dec. 1, 1884.

Selections.

MEDICINE.

REFUSAL OF FOOD IN THE INSANE.—The author, Siemens, (*Archiv. f. Psych.* Bd. xiv. p. 569, Bd. xv. p. 15) is of opinion that the refusal of food is by no means the serious symptom it is generally considered to be, and he makes the somewhat startling statement that abstinence from food, if purely mental in origin, is attended with no danger, provided it is not prolonged over fourteen days, when no water is taken, or over fifty days when water is taken, and provided, too, that the loss of weight does not exceed 40 per cent. of the total weight. He is opposed to forcible feeding, except in cases of prolonged loss of consciousness and paralysis, on account of its mechanical dangers (injury to the fauces, pneumonia from food in air-passages), and also because it is unphysiological, taking

no note of the digestive and assimilative capacities of the individual. He trusts chiefly to time, and tact, and the presentation of the kind of food the patient likes best. There is a class of cases, generally old hypochondriacal melancholic persons, which no sort of treatment, with the stomach-pump or without it, is able to save—*Brain*.

GENERAL PARALYSIS. (*Archiv. f. Psych.* Bd. xiv. p. 463.)

(1) *On the Tendon and Skin Reflexes during and after Paralytic Attacks.*—The author, Zacher, made observations on general paralytics with healthy spinal cords, with fascicular sclerosis of the lateral columns, and with combined disease of the posterior and lateral columns, respectively; and he comes to the conclusion that the tendon-reflexes during and after paralytic attacks are increased on the side which presents convulsive symptoms, even though a degree of paresis coexists, but are diminished or even abolished on the side which presents simply flaccid paralysis. If the tendon-reflexes were increased before the attack, they will either be still further increased or diminished, according to the above rule. If they were absent before the attack, they will not be re-established. A similar relation exists between the superficial reflexes and the condition of sensibility. Zacher accepts Schwarz's theory as to the correspondence between brain and spinal centres (see 'BRAIN,' Vol. VI. p. 417).

(2) *On certain Motor Phenomena during and after Paralytic Attacks.*—Muscular tension, rigidity, and contracture are often observed, and they probably express merely a different degree of the motor irritability that gives rise to convulsive phenomena. They are not to be looked on as evidence of spinal lesion, since they may be present where the cord is sound; they are probably produced by excitation of the cerebral cortex. Another motor phenomenon observed during these paralytic attacks is that of automatic, purposed co-ordinated movements, that have all the appearance of being directed by the will. Similar movements are familiar to us in some epileptic conditions and have been described by Fürstner in pachymeningitis. The presence of paræsthesia and ill defined sense-impressions may account for the movements, or on the other hand they

may simply be the result of a primary excitation of a motor area. Another of the motor phenomena alluded to by Zacher is the conjugate deviation of the head and eyes, which follows the laws laid down by Prévost and Landouzy. And lastly, he draws attention to the occurrence of disturbances of the muscular sense, evidenced by the patient's want of knowledge as to the position of his limbs.

(3) *On Visual Disturbances during and after Paralytic Attacks.*—These may be divided into two classes. First, cases of pure mental blindness (*Seelenblindheit*). In the few cases Zacher has observed, the blindness was bilateral, though the motor symptoms were only on the right side. Secondly, cases of bilateral visual affection, which are probably examples of true hemianopsia, and are due to lesion of the posterior cerebral lobes. To these should be added perhaps a third class, including cases presenting a combination of these various visual disturbances, such as Fürstner and others have described. The existence of unilateral amaurosis of cerebral origin must still be regarded as unproved.

(4) *On some peculiar Vaso-Motor Symptoms.*—If a blunt object, such as a key, was drawn across the skin, a pale streak was seen, which soon became intensely red, and close to it appeared little square raised patches, which soon coalesced and formed a strip, slightly raised above the general surface. This is probably an exaggerated example of the phenomenon to which Trousseau drew attention, and which is exquisitely seen in some epileptic conditions.—*Brain*.

SECONDARY DEGENERATIONS IN THE SPINAL CORD. — The author, Schultze, (*Archiv f. Psych.* Bd. xiv. p. 359) bases his paper on the following five cases:—(1) Compression of the cauda equina; (2) crushing of the lower half of the lumbar enlargement and the sciatic portion of the cauda equina; (3) atrophy and degeneration of the greater part of the lumbar enlargement, the result of fracture of the first lumbar vertebra; (4) breach of continuity in the cord at the level of the ninth dorsal vertebra; (5) perimeningeal tumor in the cervical region with atrophy of the middle third of the cervical enlargement from pressure.

First, as regards degeneration in the posterior columns, Schultze finds that im-

mediately above the seat of injury the posterior columns degenerate in their entirety; further upwards the degeneration is confined to the inner portions of the columns, in an especial manner to Goll's columns. This rapid diminution in the extent of the degeneration is due to the fact that two kinds of fibres are represented in the posterior columns; a short set of fibres that spring from the posterior spinal roots and soon end, probably in the cells of the posterior cornua; and a long set that pass upwards to the clavæ of the medulla oblongata. Goll's columns are composed of fibres of this last set, and chiefly of those that spring from the posterior sensory roots of the nerves that supply the lower extremities, though perhaps also of those that spring from the posterior roots in the lower dorsal region. A degree of localization is now possible within the limits of Goll's columns: for the innermost and hindermost portions of the columns are shown by Case 2 (in which the only symptoms were those of complete paralysis of the sciatic nerve) to be occupied by fibres that belong to the sciatic nerves. Pathology teaches us that Goll's columns have a much larger area in the cervical portion of the cord than Flechsig gives as a result of his embryological studies. Schultze remarks that the extent of the secondary degeneration is not always proportional to the extent and severity of the symptoms; which is probably due to the fact, that the area of degeneration is generally determined not by microscopical but by macroscopical examination, and this may easily lead to considerable error.

Descending degeneration was observed in the posterior columns in case 5. Schultze has seen it in other cases, and Westphal, Kahler and Pick, and others have described it. It extends only two or three ctm. downwards. Schultze suggests that it is caused by degeneration of those fibres of the posterior roots that bend downwards as they enter the posterior columns.

Secondary degenerations in the lateral columns are both ascending and descending. Of ascending degenerations the most important is degeneration of the cerebellar tract. This was found after lesion of the lower dorsal cord, not after lesion of the lumbar enlargement and cauda equina. The tract as marked out by degenerations reaches further forwards than Flechsig represents it. Schultze has

not observed the punctiform degeneration in the central parts of the lateral columns that Singer has described in dogs. In one case he noticed a partial degeneration of the anterior half of the column, but it is doubtful whether this was a true secondary degeneration.

The author has nothing new to say of descending degenerations of the pyramidal tracts. In case 5 there was descending degeneration not only of the pyramidal tracts, but to a less degree of the whole lateral columns, with the exception of their innermost portions (the lateral limiting layers), and also degeneration of parts of the ground bundles of the anterior columns: the disease extending eight or ten cm. downwards.

The paper concludes with some remarks on the pathological anatomy of tabes, which Schultze regards as primarily an atrophy of the nerve fibres.—*Brain*.

FOLLICULAR TONSILLITIS: ITS SYMPTOMS, CAUSES, AND TREATMENT.—I suppose every medical man has occasionally seen a mild case of follicular tonsillitis accompanied with slight feverish symptoms and general malaise, but it seldom occurs in its severer and epidemic form, and the consequence is, when it does break out, it is often supposed to be a species of diphtheria. I have looked into various text-books on medicine for a description of the disease, but have found it to be almost entirely passed over, and it is on this account I have ventured to make a few remarks on the subject.

Symptoms.—The patient complains of chilliness, followed by heat and dryness of skin, pain in the head and limbs, more especially the shoulders, and occasionally there is congestion of the eyes and nose, together with herpetic eruptions about the lips. The temperature is above the natural, often as high as 103° . The tongue is coated, and on the tonsils, which are somewhat red and swollen, are some small, round, slightly elevated buff-coloured patches. There is generally some pain in swallowing, but as a rule it is not very great.

Causes.—Not at present quite clear. Two theories have been put forward: one that it arises from taking milk drawn from cows suffering from foot-and-mouth disease, the other from damp associated with deficient sanitary house arrangements. In the early part of the epidemic which occurred in

Surbiton and Kingston at the end of 1882 and the beginning of 1883 the weather was particularly damp and foggy, and *the sufferers were almost entirely women and servants. Rarely more than two or three in a house were attacked. Very few, if any, children were attacked under five years of age.* These facts struck every one, and were accounted for by the damp state of the basements of the houses, and the young children being generally kept in the upper parts. Mr. Shirliff, the Medical Officer of Health for Kingston, suggests that the disease may be simply pharyngeal herpes, modified by the situation. "Certainly," he says, "it coexists with labial herpes and the premonitory malaise of ordinary influenza. The early high temperature points to a catarrhal origin." Some persons in the district finding that a large proportion of cases occurred amongst those supplied by one particular dairy (which I may remark in passing was by far the largest and best managed in the place) asserted that milk was the cause, and that there was something wrong either with the cows, dairies, water, or *employees*. These were all thoroughly examined by the Medical Officer of Health, Sanitary Inspector, Inspector of Nuisances, etc., and persons were sent to inquire as to all possible chances of supply, but nothing wrong could be detected. Subsequently it was found that nearly every dairy in the place was more or less implicated, and this was supposed to be due to the purchase and admixture of milk from the originally suspected source. Of course the smaller milk purveyors, who were anxious to increase their business at the expense of the suspected dairy, readily jumped at and circulated this idea. However, one case which was said to have arisen in this way, I carefully inquired into. I learnt the day and time when the milk was bought, and found out that the person affected had been served before the suspected milk was purchased. The dairyman, when questioned as to whether he had bought any milk on the day mentioned, admitted that he had, and without further inquiry the suspected milk was put down as the cause. Prior to this day and time the man had purchased no milk at all, as his supplies had not run short. Again some people were effected who took no milk or cream at all, and since it has been reported that some cats were badly ill from drinking the milk, I may state that one gentleman asserted that

his dog who never tasted a drop of milk, had a bad mouth and throat, while the cat, which was always well supplied, had nothing whatever the matter with it. But supposing that cats were ill with the same complaint, if it were really a species of influenza—it is surely nothing astonishing, as they are generally the first in the house to be attacked. Considering that *outbreaks of foot-and-mouth disease have been prevalent throughout the country for several years past*, and that *this epidemic of follicular tonsillitis is something which has arrested the attention from the rarity of its occurrence* in so widespread a form, it would certainly appear as if milk were not at any rate the sole, if it be one of the causes. A curious fact, worth noting, is that though the cases that came under my care were *ordered larger quantities of the milk than usual* they almost all, with scarcely a single exception, were *convalescent in three days*. Some had subsequent debility, but this arises occasionally after attacks of influenza.

If follicular tonsillitis and foot-and-mouth disease be really one and the same disease, it certainly runs a very different course in human beings and cattle. In the former its *average duration is from three to four days*; whereas in cattle, I believe, it is rather a *trying and lengthy illness*, and causes great loss of flesh in almost every single instance. It is moreover infectious in cattle, and apparently non-infectious in man.

The milk contractor of the Lincoln Union it would appear was, in the beginning of 1883, fined for not reporting that he had foot-and-mouth disease amongst his cattle. There was not then, nor had there been, any special illness amongst the inmates, and he asserted that he had not supplied milk from the infected cows, but it is difficult to suppose that no milk was forwarded during the time they were sickening and before the symptoms distinctly showed themselves. Since the epidemic of 1882-83 I have seen occasional cases of follicular tonsillitis, both in this and other places, and Mr. Shirliff says that during the winter months scarcely a week passes without his seeing two or three fresh cases. Such being the facts, I cannot myself see how we can come to the conclusion that foot-and-mouth disease and follicular tonsillitis are one and the same disease.

Treatment.—I generally found a mixture consisting of effervescing citrate of potash, with chlorate of potash, or biborate of soda,

and sweet spirits of nitre, taken every four hours, and

A gargle, consisting of
30 grains of boracic acid;
2 drachms of glycerine; and

1 oz. of the compound infusion of roses, to afford distinct relief. The diet should be light and nourishing, viz., corn flour, milk, and beef-tea.—F. P. Atkinson, M. D. in *The Practitioner*.

TREATMENT OF LUPUS.—Dr. Scwimmer reports that after trial of the various methods of treatment for lupus, he has found none which, taken singly, can be pronounced suited to every case. Severe local measures are capable in certain cases of doing more harm than good. Among the most useful means of treatment must be reckoned pyrogallic acid. Applied in the form of a ten or fifteen per cent ointment, three or four times daily, it soon transforms the morbid growth into a pulpy, grayish substance. Although the cicatrix looks clean after this treatment, it almost always contains tubercles, which in many cases renew the disease. To prevent this result he hit upon mercurial plaster, which he employed in conjunction with the former. The pyrogallic acid is seldom able to produce total destruction of lupus tissue alone, and it is well known that the gray plaster has little influence upon the lupoid infiltration by itself; but by using the acid to destroy the lupus tissue, and the plaster afterwards to promote absorption, they act very efficiently. In a series of very malignant cases he pursued the following course with success:

For several days after admission the diseased surfaces were kept completely covered with vaseline smeared on cloths, in order to facilitate the removal of all secondary morbid products, such as scabs, etc. A ten per cent pyrogallic ointment is then applied over the same area, and renewed two or three times in the twenty-four hours. This dressing was employed from four to six days, or, in cases where the cutaneous tissues were insensitive, from six to seven days. On its removal, vaseline was again applied for one day, after which the entire suppurating surface was covered with mercurial plaster. Healing began in from ten days to a fortnight in most localities, but isolated nodes and tubercles could still be detected in the cicatrized integument. Pyrogallic acid should once more be applied for three or four days, causing renewed

suppuration of the recently healed infiltrations, while those more firmly skinned over remained unaffected. When treatment was repeated, so much pain was experienced in many cases on the second day, that mercurial plaster had to be substituted for the ointment; but if this was not the case, the latter was left on for two days longer. The gray plaster was allowed to remain—being changed once daily if the suppuration was trifling, twice or thrice if it was more profuse—until cicatrization was complete, which sometimes required four weeks. If the complaint was peculiarly indolent and obstinate, the same process was gone over for the third time, but treatment never extended further than this.

An accurate and unprejudiced comparison of the results obtained in this way, with those following other methods, has proved decidedly favorable to the former. A speedier and much better resolution of the more advanced and wide-spreading growths was found to occur under the combined pyrogallic and mercurial treatment, than could have been brought about by the united agencies of scarification and the thermocautery.

In conclusion, he states that, "in order to make our estimate more precise, and to obviate any misconception which might cause the means I have recommended to be regarded in the light of a *lupus-panacea*, I present the following summary of the objects which they may be reasonably expected to accomplish :

1. The severest and most extensive forms of *lupus*—those hitherto most difficult and frequently impossible to manage—may be often sensibly ameliorated by these simple and comparatively painless procedures.

2. The application of mercurial plaster immediately after several days' use of pyrogallic acid, is able to bring about complete absorption of the tubercles and infiltrated cells at some points, while at others it is remarkably effective in arresting the morbid growth, and forming complete and smooth cicatrices, results which are not obtained by the use of either remedy alone. The combined treatment may be employed two or three times in succession without inconvenient consequences.

3. The more circumscribed forms of *lupus* are less amenable to this method than the diffuse serpiginous, and ulcerated varieties,—perhaps for the reason that in the latter the corium affords a less congenial

breeding-place for the morbid cells. Yet sometimes in these same cases, better results are obtained by a previous deep scarification of the affected parts, although scarification alone will prove entirely ineffectual.

4. The duration of treatment is shorter than by other methods, not exceeding three or four months in the worst cases.

5. Relapses are to be looked for here no less than after other processes, but are to be least apprehended when the treatment has been thoroughly carried out—i. e., has terminated in complete and uniform cicatrization.

6. This method is indicated in the most extended form of *lupus*, whether occurring on the face, the body or the extremities, and is especially suitable in neglected cases which have received little or no previous treatment.

7. The affected surfaces after healing retain their redness for a considerable period. The discoloration gradually fades however, and its disappearance can sometimes be hastened by using an ointment of bismuth or zinc."—*Glasgow Med. Jour.*

PARENCHYMATOUS INJECTIONS OF TURPENTINE IN MALIGNANT GROWTHS.—From a series of injections of turpentine into the interior of malignant growths in order to influence their development, Dr. Vogt reports (communication from the Chirurgical Clinic in Greifswald, *Centralblatt für Chirurgie.*) as follows :

The first case was a return after extirpation of a carcinomatous breast, which showed itself as a rapidly-growing tumor pressing forward from the anterior mediastinum. One-half of a Praviz syringeful of a solution of equal parts of alcohol and oil of turpentine was injected. In a few hours there was severe pain, fever, and erysipelatous redness of the breast. After forty-eight hours the temperature declined, but the general malaise lasted several days longer; the tumor had become visibly contracted.

In ten days a second injection was made, with the same effect at first, but afterwards an abscess formed. Two more injections were made during the next few weeks. In the course of two months a gradual shrinkage of the tumor took place, which then remained as a decidedly hard tumor without any abnormal heat. The patient was then discharged.

The second case was one of multiple sarcoma, which was treated in the same way, with the same results, including the abscess. In the course of five weeks, after repeated injections, the tumor had almost disappeared.—*Medical Times*.

MULTIPLE DEGENERATIVE NEURITIS.—

The case that Strumpell reports (*Archiv f. Psych. Bd. xiv. p. 339*) was in its early stage diagnosed as a chronic poliomyelitis. There was extensive and rapidly developed paralysis in all four extremities, with marked atrophy of the affected muscles, and the reaction of degeneration; the muscles of the trunk were paralyzed, the respiratory muscles and the diaphragm last of all; the functions of bladder and rectum were normal; there was no decubitus. The only symptom that threw doubt on the diagnosis was the slight sensory affection; there were in the early history of the case darting pains in the arms and legs, and during the latter stages analgesia, and at other times hyperæsthesia in the lower extremities.

The presence of sensory symptoms will probably be an important point in the differential diagnosis of poliomyelitis and multiple neuritis. Other interesting symptoms were the persistently high pulse-rate, which was never under 120 per minute, and which may perhaps be attributed to an affection of the vagus, the cedematous swelling of the four extremities, and the commencing atrophy of the optic nerve.

The autopsy showed degenerative atrophy of the peripheral nerves and muscles. The anterior nerve-roots of the spinal cord were quite normal. The term degenerative *neuritis* is used, but there was no trace of even old inflammatory changes, and the disease is probably simply a nerve degeneration. The symptoms indicated that the motor nerves were implicated in a much larger degree than the sensory nerves; but the *post-mortem* does not throw any light on this point, which is deserving of special elucidation in future cases.

As regards the etiology of the disease, there is reason to suspect that it owes its origin to some infective source. Beri-beri, which is similar in many respects to the disease under consideration, has been shown to be a multiple neuritis, and it is epidemic in many tropical and subtropical places.

Tuberculosis is a frequent complication in cases of multiple neuritis.

Strumpell thinks that many cases of acute ascending paralysis (Landry's disease) are really cases of multiple degenerative neuritis, and he points out the necessity of examining the peripheral nerves and muscles in all cases.

VIERORDT (*Archiv f. Psych. Bd. xiv. p. 678*) reports a case of this disease in a patient suffering from phthisis, and comments on the frequent association of the two diseases. He also carefully describes the different sensory symptoms, and indicates their relative diagnostic importance.

MULLER (*Archiv f. Psych. Bd. xiv. p. 669*) publishes another case, complicated with tuberculosis and mental symptoms.—*Brain*.

SPASTIC SPINAL PARALYSIS.—Westphal (*Archiv f. Psych. Bd. xv. p. 224*) reports a case which presented the following symptoms:

Spastic paresis of the lower extremities, spontaneous twitchings of the muscles, heightened tendon reflex, diminished sensibility to temperature, somewhat increased sensibility to pain; and the act of micturition was rather painful, and caused a powerful tonic convulsive movement throughout both lower limbs. Westphal remarks that the sudden forcible bending of a joint will often give us indication of an incipient spastic contracture, when slow, gradual passive movements tell us nothing. The case is remarkable, in that the symptoms remained stationary for about four years, when paralysis rapidly developed in the right arm, brain symptoms showed themselves, and death occurred in four weeks. It cannot be considered a typical case of spastic paralysis, on account of the bladder troubles and sensory symptoms.

The post-mortem disclosed primary degeneration of the pyramidal and direct cerebellar tracts of the lateral columns of both sides; slight irregular degeneration of Goll's columns in the cervical and upper dorsal regions; and softening of the central white matter of the hemispheres, particularly in the left cerebral hemisphere. There was hypertrophy and dilatation of the bladder.

This case is in accord with Westphal's previous experience, that the symptoms of spastic paralysis may be associated with disease of the lateral columns, conjoined with disease of the posterior columns, if the latter does not extend to the lumbar portion of the cord.

Westphal returns to the subject of uncomplicated primary sclerosis of the pyramidal tracts of the lateral columns, and controverts Flechsig's statement, that the so-called cases of this affection in general paralysis, are really cases of descending degeneration of cerebral origin. According to Westphal, it is in cases of general paralysis, and in these alone, that this peculiar form of sclerosis has yet been found.—*Brain*.

COMBINED DISEASE OF THE ANTERIOR CORNUA AND LATERAL COLUMNS OF THE CORD.—*Vierordt* (*Archiv f. Psych. Bd. xiv. p. 391*) reports a case of which the following were the chief symptoms:

There was a gradual appearance of weakness in the muscles of the extremities, with subsequent atrophy of the muscles; there was the reaction of degeneration; there was no trace of muscular contracture; the patellar reflex was retained; sensibility and the functions of bladder and rectum were normal, and there were no bulbar symptoms. The patient died of an intercurrent attack of bronchitis.

There was advanced degeneration of the grey matter of the anterior cornua of the cord; degeneration evidently more recent of the pyramidal tracts of the lateral columns from the lumbar region to the decussation, but not beyond this; degeneration in a moderate degree of the anterior mixed zones of the lateral columns; and degeneration of the motor nerves and of the muscles. The direct cerebellar tract and the lateral limiting layer were normal. Disease of the anterior mixed zone of the lateral columns has been noticed by many authors in cases of combined disease of the anterior cornua and lateral columns. It is also found in some cases of poliomyelitis anterior, and progressive muscular atrophy.

This case is an example of primary degeneration of the ganglion cells and nerve-processes of the anterior cornua, with secondary systematic degeneration of the pyramidal tracts.

A remarkable feature is the absence of degeneration of the pyramidal tracts above the decussation. But notwithstanding the absence of bulbar symptoms, the case is closely allied to Leyden's amphotrophic bulbar paralysis. They are both characterized by degeneration of pyramidal tracts with flaccid atrophic paralysis, and so stand in

contrast with Charcot's amphotrophic lateral sclerosis, in which there is degeneration of the pyramidal tracts, but rigid paralysis with contractures.—*Brain*.

GREIFF ON THE LOCALIZATION OF HEMICHOREA.—Two cases are reported (*Archiv f. Psych. Bd. xiv. p. 598*).

The first was a case of left hemichorea following left hemiplegia, and the autopsy revealed lesions in the left cerebellar hemisphere, the right occipital lobe (implicating the occipito-temporal, lingual, and inferior temporal convulsions) and the right optic thalamus.

In the optic thalamus there were two small hæmorrhagic foci, one in its upper and inner portion, the other at its lower border where it is contiguous with the pes pedunculi, into which the focus could be traced. Greiff concludes that it was this last lesion that caused the hemichorea by the excitation it produced on the pyramidal fibres of the peduncle.

The second was the case of a man, aged 51, who presented in the early part of his illness the symptoms of senile dementia, but afterwards epileptiform attacks developed, so that the case may be referred to the group of progressive paralysis (general paralysis).

After one of the convulsive attacks, in which the left side had as usual been much affected, left hemichorea appeared, and lasted four days, when it declined into a hemiathetosis, and passed away. Microscopic examination showed, in an extreme degree, changes in and around the vessels with pathological alterations of the nerve-cells. These changes were most marked in the right central convolutions and the paracentral lobule. There was also a small focus of incipient softening in the upper part of the right pons adjacent to the pyramidal strands, with descending degeneration of these strands. It is impossible to decide which of these lesions determined the hemichorea, but in either case it was probably by irritation of the pyramidal fibres.—*Brain*.

GUAIAC IN THE TREATMENT OF ACUTE SORE THROAT.—In a recent paper read before the Philadelphia Laryngeal Society, Dr. Joseph B. Pottsdamer speaks highly of the action of the tincture of guaiac in tonsillitis and pharyngitis. The practical deductions which Dr. P. draws from the

cases which have been under his treatment are:

1. The almost instantaneous relief from pain.
 2. The improvement in deglutition which follows:
 3. Diminution of swelling.
 4. The short course of the disease, all of the cases having been practically well on the fourth day of treatment, if not much sooner.
 5. If the case comes under treatment early enough the disease may be aborted.
- N. Y. Med. Times.*

HEMIANÆSTHESIA.—In vol. xxxvi. of *Guy's Hospital Reports*, Dr. Wilks makes a valuable contribution to the literature of this subject. He shows that, as is generally admitted, such cases do not admit of explanation by the hypothesis of a gross lesion; and gives reasons, moreover, why such lesion as there is cannot be in the region of the internal capsule. He emphasizes the constant association of the phenomena of hemianæsthesia, hemianalgesia, etc., with the moral characteristics of hysteria; and counts this as one among other reasons for attributing what lesion there is to the cortex. He considers that the central circumstance in the malady is

the arrest of the function of a large area, or the whole of the cortex of one hemisphere. Such cessation of action is common enough as affecting the two hemispheres simultaneously; as is evidenced by the occurrence of sleep, of stupor after blows, and other conditions. If we suppose such cessation to occur over part of the cortex instead of over the whole, it will account in great measure for the temporary one-sided losses and for the other manifestations attending them.—*Brain.*

PARALDEHYDE AND ACETAL IN MENTAL DISEASES.—The author (Langreuter, *Archiv. f. Psych.* Bd. xv. p. 1) recommends paraldehyde as a hypnotic in mental diseases. It is of most service in cases of epileptic excitement with feelings of terror, etc., and in the similar conditions of disturbed consciousness that occur in general paralysis. The superiority of the drug over chloral lies in its more rapid action and greater safety. The dose is from five to six grammes, and a sleep is produced in from five to ten minutes, that lasts about two hours, and often, especially at night, seven or eight hours. Acetal is similar in its action to paraldehyde, but it is not so reliable, and its smell and taste are much more disagreeable.—*Brain.*

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HORLICK'S DRY EXTRACT OF MALT—BEST IN USE.

Original Articles.

OXALURIA:

AND ESPECIALLY THE COMPARATIVE AND
RESPECTIVE MERITS OF NITRO-MUR-
IATIC ACID AND BIPHOSPHATE
OF SODIUM IN ITS
TREATMENT.

By CHARLES N. DURSELEN, M.D., 2,524 State st.,
Chicago.

Before reporting the following case of oxaluria, I have to apologize on the one side for not remembering the exact dates, as the case was treated by me during June and July, and as I have to depend entirely upon my recollection thereof; on the other side the length of time expired since then may prove the only and best warranty as respects the efficiency of the remedy. I do not, however, pretend to present any new ideas regarding the physiology and pathology of this disease, as the most eminent writers, especially Dr. Harley, in his lectures on "The Urine and its Derangements," have so excellently and thoroughly expatiated thereon that nothing more and nothing better could be added. Its symptoms being also very distinct, perhaps its therapy alone deserves some elucidation, although I am willing to give even in this respect, full credit to the named author for confirming my own ideas.

H. M. æt. 30, and of nervous temperament, consulted me during June for oxaluria. As to the preceeding history of the case, he had been afflicted three times during the past three years with gonorrhœa, cured, however, perfectly every time. The oxaluria followed a long time afterward, and had no direct connection with the gonorrhœa, unless this was the cause of a relaxed state of the urinary organs. He complained for the last year of a discharge of sandy matter taking place with the urine being voided, preceded by scalding or cutting, but mostly scalding pains taking place at the neck of the bladder, and pain at the outlet of the urethra, with frequent and urgent desire to urinate, and a good deal of straining in the effort. The predisposition to the disease in this case seemed to be general debility and nervous irritability, which states, according to Drs. Trout and Bird, mostly predispose thereto, and in anæmia. As to the anæmia, Dr. Walshe (*vide* Budd on Diseases of the Stomach, American edition, p. 204) deems

it a predisponent cause. The patient was also subject, as anæmic persons in general, to frequent attacks of neuralgia, this ailment confirming the correctness of Dr. H. A. Johnson's opinion as to the frequency of these attacks in patients suffering from oxaluria (*Boston Medical and Surgical Journal*, xlix., 184, from *Northwestern Medical and Surgical Journal*).

His pulse, generally 72 in the sitting posture, was weak, soft, and easily compressed, also greatly quickened by bodily exertion and mental emotion, as the pulse of anæmic patients is very apt to be. He was also emaciated, and complained occasionally of palpitation of the heart, functional, however, and constantly of what he called stiffness of the jaws, which disappeared finally under a tonic regimen. His bowels were costive, but no other constitutional symptoms besides those enumerated were present, his tongue being quite clean and his appetite and digestion excellent, to the exclusion of dyspepsia.

The urine showed octohedral crystals of oxalate of lime entangled in a copious deposit of mucus, although it often had to stand nearly 24 hours in order to render these visible. No phosphates and no uric acid sediment was ever simultaneously present, nor was there ever, notwithstanding the long duration of the disease and the excessive pain, a mulberry calculus formed. This fact is accounted for by the observations of Hassell, Beale, and others, that the octohedral crystals less frequently originate renal mulberry calculus than the dumb-bell shaped crystals. Dr. Harley believes that this idea originally sprang from the fact that dumb-bell shaped crystals are occasionally found embedded in the fibrinous casts so commonly met with in the urine of cholera, and as the fibrinous casts are formed in the renal tubes, the oxalate of lime crystals, it is supposed, have also formed in the same situation. From his own observations, however, not only dumb-bell but also octohedral crystals are occasionally to be found in the renal tubes, and he thinks it, therefore, highly probable that occasionally the octohedral and occasionally the dumb-bell crystals form the nucleus of mulberry gravel and stone. However this may be, no dumb-bell shaped crystals could ever be found in the urine of this patient.

This disease was mistaken for phosphatic gravel by some prominent physicians in this city, strange to say! It would be

probable that the phosphatic diathesis preceded the oxaluria, as it sometimes does, had not one of the physicians spoken of showed him the crystals under the microscope, and had not these exactly corresponded with those shown him by myself.

The sediment was entirely soluble in dilute nitric acid, soluble also in dilute hydrochloric acid, but insoluble in acetic acid and liquor potassæ. He also showed me the remnants of a powder evidently consisting of bicarbonate of sodium, which one of the physicians had prescribed for him, and which, as he literally said himself, being an intelligent gentleman, could only aggravate his disease by its alkalinity. Now, as this physician may have followed the suggestion of Prof. Geo. Wood, who, contrary to the former opinion, considers the alkaline bicarbonates as the most efficient remedies in preventing the deposition and effecting the solution of the phosphatic as well as of the uric acid sediments, this would corroborate my own presumption that said physician mistook the case for one of phosphatic lithiasis.

The patient was put by myself for the first six weeks upon the steady use of the nitromuriatic acid, gtt. v. ter. die., diluted with a wine-glass full of water, each dose being alternately taken with chalybeates, especially carbonate of iron or tr. fer. chlorid. (the former increased from gr. iij. to gr. vj., and the latter from f. 3 j. to f. 3 ij. pro dosi), zinc phosphid increased from gr. 1-10 to gr. 1/8 pro dosi, strychnia from gr. 1-20 to gr. 1-12, all without any unpleasant effects whatever; and quin. sulph. gr. j. pro dosi.

As to the anæmia, general debility and nervousness, the constitutional symptoms in general, these disappeared entirely, and it seemed at one time as if even the sediment would disappear. A sudden aggravation of the urinary affection took place, however without any palpable cause, and notwithstanding the patient's obedience to my stringent directions regarding hygiene and diet. As to these, I have to add that I strictly forbade him the use of fermented liquors, lime-water, and of all fruits and vegetables containing a large quantity of acetic, citric, malic and tartaric acids; rhubarb pies, the immoderate use of sugar, allowing him, however, a little brandy and water after meals.

The patient becoming impatient now and it having appeared to me during

the previous treatment that laxatives slightly improved his state, and that phosphatic acid is sometimes substituted for the nitromuriatic acid, it occurred to me at once that the phosphoric acid with sodium as base being laxative but useless on account of its slight alkalinity, the acid phosphate of the same base would probably be effective. While reflecting on this I accidentally read the opinion of Dr. Harley, op. cit., pp. 151-2. "Even in the treatment of a case of simple oxaluria skill and judgement are required. A remedy that is suitable for one patient may be quite inappropriate for another, and even in the same patient, life being an ever fluctuating quantity, the remedy which is beneficial at one time may prove prejudicial at another.

For example, I have seen cases of oxaluria which resisted all the usual routine of mineral acid tonics at once entirely disappear when the patient was put on the acid phosphate of sodium, and vice versa." I have found this observation of Harley, independently of him, fully confirmed in the case I am reporting.

After the said six weeks' tonic regimen I prescribed solely the biphosphate of sodium in order to determine its uncombined effect, and the oxalate of lime deposit disappeared entirely in less than a fortnight.

There never was a relapse, as the patient whom I met on the street only lately stated to me.

The quantity of the biphosphate was increased from 3 i. to 3 i ss. ter. die., and in the latter dose it acted simultaneously as a laxative, and that most decidedly.

As to the comparative and respective merits of the nitromuriatic acid and biphosphate of sodium in oxaluria, it seems to me that the nitromuriatic acid is pre-eminently useful and especially adapted to cases connected with dyspepsia or a disordered state of the liver, also to hypochondriac cases by its resembling the acid of the gastric use, and being at all events an excellent digestive tonic and hepatic alterative.

Dr. H. C. Wood (to whom I applied for the adoption of the salt into the U. S. D.) says in Pereira's Med. and Therap., p. 85: "Nitromuriatic acid is often very useful in cases of indigestion, dependent upon a want of tone of the mucous membrane of the alimentary canal. There is a peculiar condition of the system, characterized by debility, lassitude, weakness in the

lower limbs, low spirits, dyspeptic symptoms, together with the presence of crystals of oxalate of lime, either octohedral or dumb-bell, in the urine, in which nitromuriatic acid is almost a specific, especially when combined with proper hygienic measures."

In simple, uncomplicated cases of oxaluria, however, or in those accompanied by anæmia, and especially with costiveness after improvement of the general state by hæmaturics and other tonics, I deem, generally speaking, the biphosphate of sodium preferable. If it should prove to have similar chologogue properties as the common (tribasic) phosphate of sodium, it may even be applicable in cases of torpor of the liver.

As to the chologogue properties of the common phosphate there can be no doubt, I having used it often in infantile cases, especially in cholera infantum here, with great success. I found no opportunity of prescribing the biphosphate of sodium, as the only patient in whose case I might possibly have tried it, apart from the general treatment, a hypochondriac, came to me from Milwaukee with the best will of subjecting herself to my treatment, but as soon as returned positively refused all medication.

Without even crediting such an eminent authority as Pereira, who deems the mineral acids in general spanæmic, though less decidedly than the vegetable, or the alkalines, I do believe that their tonic power is confined to their acting on the stomach in dyspeptic cases much more than on the blood. and on the other side I do not consider the tonic element, as regards the biphosphate of sodium, as very important. It is doubtful anyway if the phosphates produce the same hæmatinic effect as pure phosphorus or its binary compounds, especially its best medicinal form, the phosphate of zinc, and in oxaluria their efficiency is certainly due partly to their special and alterative properties and partly to their laxative power. As the leading druggists of this city failed to prepare it, notwithstanding my detailed directions, and as I even had to apply to my brothers, druggists at Joilet, therefor, some druggists having confounded it with the pyrophosphate, mistaking the bibasic phosphate of sodium for the biphosphate of sodium, it may not be amiss to add the mode of preparing it. although this may be found in works on chemistry.

The biphosphate of sodium or biphosphate of soda $\text{NaO} \cdot 2 (\text{HO}) \text{PO}_3 + 2 \text{HO}$, according to the old nomenclature, is prepared by adding the terhydrated or (common) phosphoric acid to a solution of the tribasic (common) phosphate of sodium till it ceases to precipitate chloride of barium. The crystals are very soluble, and strongly acid. The salt forms a yellow precipitate with nitrate of silver. I used it in the granulated form.

Chicago, Nov. 22, 1884.

CHRONIC ULCER OF THE LEG SUCCESSFULLY TREATED.

By CHAS. P. KING, M.D., Newark, O.

There is perhaps no class of diseases within the whole domain of surgical practice so difficult to manage successfully as those of chronic ulcer. I think that my brother practitioners who have had any experience in the treatment of these cases will sustain me in the above assertion. It has been my misfortune during a practice of some seventeen years to have had quite a number of these cases, and I do not think it egotistical on my part to say that I have been very successful in their management. The case I am about to report is the worst that I have ever seen in my private practice, and hence have been constrained to report it, thinking it might prove of interest to your many readers.

Mr. McV., aged 23, unmarried; occupation a brick-mason. He is a robust, healthy looking man, says he has never had syphilis or gonorrhea, is not of a scrofulous diathesis, and is not a drinking man. Was struck on the ankle-joint in Jan. 1883; ulcer made its appearance in the following March on the outer half of leg, at or near the lower third, was about the size of a dollar, followed by a second ulcer, somewhat larger, just above it. He was treated for some time before I saw him, but he says he derived no benefit from treatment, became discouraged and commenced using patent medicines, salves, etc. Came first to me for treatment on August 3d. On examination I found the ulcers were as large as a man's hand, and covered nearly the whole of the middle third of the leg. The epidermis around ulcers was of a white tinge, ulcerated surface of a purple hue, indicating an impoverished condition of the blood; the system was generally debilitated, the kidneys did not act; appetite poor; no fever.

The limb was enormously swollen, so that he could not put his foot on the floor without producing great pain. Informed him that rest was paramount to everything else in the way of treatment, and that if he ever expected to recover he would have to quit work for a season, keep the foot elevated, and avoid everything that might have a tendency to cause either local or constitutional disturbance. Told him that recovery would be slow, and that he must have patience, and not be discouraged if the ulcers were slow in healing.

Treatment was as follows: As there was very much inflammation present, the parts being very much swollen and the ulcer presenting an angry appearance, I ordered the application of flax seed poultices for several days, after which I applied locally to ulcers with a camel's-hair brush, a solution of nitrate of silver, three grains to the ounce of water, every morning. Internally, gave a laxative pill every three or four days for the first two weeks, together with the following prescription:

R Potasii iodidi	℥j
Hydrargyri bichloridi	grs. iij
Comp. syr. stillingie	
“ “ sarsaparillæ aa	℥iij

M. S., a teaspoonful three times a day.

Directed patient to wash ulcers every night and morning with tepid water and castile soap, then bathe parts with a carbolic acid solution which I had prepared. Continued this treatment fully ten days before there was any apparent change for the better. The swelling gradually subsided, the ulcers began to assume a more healthy color, and healthy granulations made their appearance over the whole inflamed surface. Then commenced using surgeon's cotton with vaseline as a dressing for a short period, after which I strapped limb with adhesive plaster and bandaged leg from foot to knee, taking care that the bandage was so applied that the pressure would be equalized over the entire limb. Was in my office last on Sept. 3; redressed limb; granulations healthy, and covered nearly whole surface of ulcerated portion. Changed dressing, using the following:

R Iodoform pulv.	grs. xx
Vaseline	℥j.

Mix. Apply every night on retiring.

He recovered rapidly from this time. At this writing I am happy to say that the ulcers have entirely healed, and that he has returned to his work as usual.

Had not the disease yielded to the above treatment, it was my intention to apply a rubber bandage to the limb, as advocated by some of our leading authors. I have great faith in its efficacy in some forms of chronic ulcers. My prognosis in this case when I first saw it was anything but favorable, for it was the worst case I had ever seen in my practice, although such cases are common in our hospitals.

We should not, therefore, despair in our treatment of any case, however unpromising it may at first appear, as good results frequently follow when we least expect them.

SUPPURATIVE ARTHRITIS — ITS CONSERVATIVE TREATMENT.

A Paper read before the Philadelphia County Medical Society, November 19, 1884.

By C. B. NANCERDE, M.D.,
Professor of General and Orthopedic Surgery in the Philadelphia Polyclinic; Surgeon to the Episcopal and St. Christopher's Hospitals.

This paper in reality consists of the brief notes of a case of incised wound of the knee joint, and the elaborate history of a second case of suppurative arthritis of the wrist joint. For the history of the latter I am indebted to Dr. Ralph W. Seiss, the family attendant of the patient, to whose unremitting and intelligent care a large share of the recovery must be attributed. Instead of dilating upon the indications for treatment in cases of suppurative arthritis, I will simply let the histories of the cases speak for themselves.

On Saturday, March 25, 1882, I was asked to see J. P. R., æt. 28, a patient of Dr. T. S. Crowley. The doctor had first seen him on that day and had at once directed them to send for me, recognizing the exceeding gravity of the case. J. R. had the previous Thursday forenoon cut his right knee with the corner of his hatchet, when the limb was strongly flexed thus rendering the incision into the capsule non coincident with that through the skin when the joint was in any other position than extreme flexion; in other words, the joint was opened in a so-called valvular manner. Owing to a nick near the corner of the hatchet, the weapon must have incised the capsule nearly to the extent of a fourth of an inch. He at once tied a "chew of tobacco" over the wound and did some light work until the evening, when he rode home. The next day he returned

to his work, which happened then to be light, but unfortunately he walked home, about two miles, which caused enough pain and uneasiness in the joint to induce him to stop and rest several times before reaching home.

That evening he still persisted in walking around, without experiencing much uneasiness, and retiring early was awakened by very severe pain in the joint, which was red and swollen. Chills, high fever and slight delirium rapidly supervened. When I first saw him the joint was filled with fluid and the periarticular tissues were swollen and reddened.

Rest and ice and opiates utterly failed to control the symptoms, so that by Sunday night the patient was very ill, with a manifestly suppurating joint. Some sonovia mingled with pus escaped from the incision both with and without pressure.

Upon consultation with Prof. Ashhurst I freely laid open the original wound with a director, and then made a free incision on the outer and upper side of the patella, thereby giving vent to a quantity of purulent synovia. The patella came into contact with the femoral condyles, so that no extended search was made for the opening in the capsule. A poultice was applied and morphia exhibited. The next morning the joint had again filled up, but on a second visit the discharge had again found vent, allowing the patella to recede to its normal position. The whole lower half of the thigh and the region of the head of the tibia was converted within a few days into a series of abscesses more or less intercommunicating.

Suffice it to say that by free counter openings, drainage tubes, antiseptic injections and immobility of the joint secured by splints and suspension from the ceiling, aided by a proper supporting regimen, with free stimulation, quinine, etc., the patient convalesced. Hot douches, massage and passive movement in a few months brought the knee to a right angle, and now perfect extension and nearly perfect flexion have been obtained. The members will see that the patient walks absolutely without any limp, with a freely-moving, normal joint, which never reminds him of previous trouble, except by passing fatigue, although he tells me he has formed such a habit of "favoring" his knee as to make him afraid to use it much, unless he forgets all about it, when he uses it as freely as ever before.

Such a result speaks for itself.

In this case there is no reason to doubt that the immediate application of a compress and bandage in the form of the "chew of tobacco," and the handkerchief excluding the air, the ride home and the night's rest, all favored primary adhesion of the capsular wound. The next day's work, light as it was, the walk home and the subsequent evening's exercise, doubtless reopened the recently healed capsule, air was probably pumped in by the movement of the joint, and suppuration ensued. Perfect quiet of the joint from the moment of the reception of the wound, its disinfection and antiseptic dressings, aided by cold, would probably have obviated all the subsequent danger and suffering.

I shall now read the notes relative to the case of suppurative arthritis of the wrist and inferior radio-ulnar joints kindly furnished me by Dr. Seiss.

On April 24, 1884, I was called in the case of Mr. W., a large, powerful man, of splendid constitution, and a perfect family history. He was a builder, he had led an active, out door life, and had been of regular habits up to within a few years, since when he had been drinking heavily. One week before I saw him, while wrenching the stopper from a bottle, the neck broke, and the keen edge of the larger fragment in slipping cut the ulnar side of his right wrist, producing a wound down to the joint capsule and about an inch in length. After allowing the free venous bleeding to continue for some time, he forcibly strapped the wound with many layers of court plaster, applied over this a tight bandage, and then soaked the entire dressing with "Turlington's Balsam." To ease the terrible pain he suffered he says he drank about a quart of whisky in a single day and almost as much the succeeding day. He was given calomel and a "fever mixture" by a local practitioner at Atlantic City, N. J., and some five days after the receipt of the injury he was removed by his relatives to Philadelphia.

When I saw him his hand was encased in a clumsy poultice, on removing which I found the wound filled with friable granules. On examining with a probe and my little finger, I could plainly feel the capsular ligament, which appeared to be uninjured; the ulnar artery was also found to be uninjured, the motions of the wrist joint were still free. His temperature was 103°;

his skin clammy and leaking; tongue foul and coated, respiration hurried, pulse rapid and weak, mind clouded, with a marked tendency toward muttering delirium. His urine was found on examination next day to be loaded with albumen. The entire hand and forearm were covered with a fiery red blush, the hand was much swollen and puffy. I at once enveloped the entire hand and forearm in a dressing of laudanum and water, equal parts, and placed it upon a forearm splint. I put him upon two grains of sulphate of quinine, every two hours, night and day, each dose to be followed by a half ounce of whisky in an ounce of milk, which was to be increased to three ounces of milk as soon as the stomach was found to bear well the first few doses. I also ordered him to be sponged daily with a solution of alum in alcohol and water.

For seven days after the adoption of the above treatment he grew steadily better, with less sweating, a stronger pulse and respiration, a lower temperature, and his mind clear. On the evening of the seventh day his temperature rapidly rose to 103° , and continued to rise, with slight morning remissions, until it reached 104° on the evening of the tenth day. I then found a small abscess forming over the first and second metacarpal bones, which I at once opened by a free incision, permitting the escape of about half an ounce of creamy pus. He immediately improved, but soon began to have marked night sweats, with great pain in the hand and forearm, requiring the frequent administration of hypodermic injection of morphia sulphate to secure rest at night.

About a week after the formation of the first abscess I opened another situated between the thumb and index finger, by a deep incision, giving vent to a thin, glairy pus. This, however, produced but a slight remission of the symptoms, and he rapidly fell into a semi-typhoid state.

A few days after the opening of the second abscess, Prof. C. B. Nancrede saw him in consultation with me. The following conditions now obtained: Careful manipulation gave a slight sensation of grating, showing the presence of eroded bone; examination with a probe showed extensive destruction and separation of tissues, the hand being little more than a bag of bones; the wrist joint was stiff, and gave distinct crepitus on motion. The original

wound was covered with exuberant granulations. General condition markedly septic and typhoid. A counter incision was now made on the radial side of the wrist, a grooved director being passed through my incision over the second metacarpal, which had been kept freely open, directly through the opening. The pulsation of the bared artery (radial) could be plainly felt under the director.

Upon suggestion of Dr. Nancrede, the hand was now enveloped in dressings of hydrarg. bi-chloride, one part to 2000 of boiled water, and three-drop doses of tincture ferri-chloridi were given every two hours, in addition to the treatment already adopted. This caused a slight amelioration in the symptoms. Thorough drainage was maintained by the use of drainage threads of ligature silk, and all the openings were carefully syringed twice daily with the hydrarg. solution. The quinine and whisky were continued, together with hot broths and concentrated foods of all kinds. His average morning temperature was now $101\frac{1}{2}^{\circ}$, his evening rose from one degree to two and a quarter degrees; pulse always rapid and feeble—from 98 to 117; respiration hurried, took food willingly, had occasional fits of restlessness and pain, requiring hypodermics of morphia; some night sweats, a trace of albumen constantly found in the urine, but no casts could be found at any time. For two weeks this state of things continued with but little change for better or worse. Then commenced a train of markedly septic symptoms: lungs frequently congested, some cough, marked night sweats, hurried pulse and respiration, furred and heavily coated tongue, intense pain in hand, urine loaded with albumen, and occasional, though rare, chills. Some fourteen days after the first consultation the temperature began to rise steadily until it reached 105° on the sixteenth day after our first consultation, and he now failed so rapidly that I feared speedy death from exhaustion.

On the evening of the sixteenth day I discovered a deep-seated abscess over the distal ends of the ulna and radius. The same evening I again saw him with Dr. Nancrede, when the following operation was performed: Dr. Nancrede made a free incision over the abscess and dissected down on a director until the joint was reached, the latter was opened, and about a half ounce of pus allowed to escape.

On examination with the probe and finger, the articular surfaces of the inferior radio ulnar joint were found to be deeply eroded. The bones of the proximal row of the carpus and the articular surface of the radius were also found to be softened and partially denuded of cartilage. A director was pushed through the radio-carpal joint until it could be felt under the skin on the dorsal aspect of the wrist, where a free counter-opening was made down upon it. The wound was now thoroughly syringed with the hydrarg. solution and a stream of the latter forced through the radio-carpal joint, moderately forcible extension being made to facilitate the passage of the solution. The hand was now most carefully cleansed with the antiseptic solution and antiseptic irrigation was used, the hand and forearm simply resting on a bed of raw cotton, covered by lint kept constantly soaked with the bi-chloride solution; the amount of whisky he had been taking steadily since I first saw him was increased and the dose of quinine raised to 28 grains per diem. The night of the operation he suffered intense pain in the hand, requiring two hypodermic injections of morphia, each of $\frac{1}{4}$ grain, to produce quiet.

With the exception of one more small abscess on the dorsal aspect of the hand, which I opened, and its attendant symptoms, and a troublesome pressure-sore on his elbow, he now steadily improved. It having been found absolutely necessary to open the sheath of a tendon—palmaris longis?—in opening the joint, some slight trouble occurred from hernia of the tendon, it occasionally extruding to the extent of nearly two centimetres; it was carefully returned at each of the two daily dressings, and attempts made to keep it in place by a compress lightly applied. It perfectly returned to its normal position as the wound closed. A large amount of bloody synovia could be pressed from the sheath of this tendon at each dressing. In ten days he was able to sit up for a short time, and the doses of both quinine and whisky were now lessened. After some weeks of treatment with the bi-chloride solution, he exhibited marked mild mercurial poisoning, and carbolic acid solution, 1 part pure crystals to 45 of boiled water, was substituted. In three weeks the arm was put upon a wooden forearm-splint, still enveloped in wet carbolic acid dressings, and he

was able to move about his room. About a week later he went downstairs for the first time. The quinine and alcohol were now reduced to tonic doses. The wounds were now completely blocked with healthy granulations and, therefore, the wet carbolic acid dressings were discontinued, the wounds being dressed with carbolized cosmoline—1 to 40 pure crystals—and later with oxide of zinc ointment. Passive motion was now made for some minutes, night and morning. After some, three weeks of this treatment, *thirteen weeks* after receiving the injury, he was able to leave the house for a short walk; and *fifteen weeks* after the accident he was able to go about and attend to his affairs almost as usual, wearing his arm on an accurately moulded splint of binder's board, with the wounds entirely healed.

I now saw him but three or four times weekly, and at each visit thorough friction with alcohol on a handful of raw cotton, thorough massage and passive motion of the entire arm were practiced. The elbow was now exceedingly stiff, the shoulder-joint equally so, the wrist ankylosed, thumb almost rigid, only slight motion of the fingers. The binder's-board splint was now soon abandoned and he was instructed to make constant efforts to move all the joints of his arm, forearm and hand. I saw him weekly and made strong passive motion of all the stiffened joints at each visit.

At present, six months after accident, his condition is as follows: Weight, 185 pounds—being a gain of 26 pounds in about nine weeks—general health good; some neuralgic pain in injured hand occasionally; shoulder slightly stiff, deltoid muscle unable to lift it to normal height. Elbow stiff, but hand can be brought directly back to within eight inches of the shoulder—which, the wrist-joint being ankylosed, is almost normal. The forearm cannot be pronated nor supinated, save to a very slight extent. The wrist-joint, as a whole, has a slight degree of extension and flexion. The fingers have more than three-fourths normal flexion and extension, and that quite free. The thumb has its free movements, and is but very slightly stiffened. He writes, with the injured member, a very fair hand, and can continue its efforts long enough to write four pages of "legal cap" without rest. The hand can also be rapidly used for all ordinary pur-

poses not requiring much strength. He feels changes of the weather badly in the entire right arm, but apart from this, the occasional neuralgia and a feeling of weakness and tenderness in the member, uses it as freely as the other uninjured hand.

In conclusion, I would again reiterate that free incision, drainage and rest, combined with antiseptic treatment in its broadest sense, will, when judiciously followed by persistent passive movement and massage, often save not only life and limb, but an excellent joint, such as I show you in these two cases to-night.

Correspondence.

FRUHJAHR-CATARRH.

"SPRING CATARRH."

An Open Letter to Dr. Hansell.

DR. HANSELL: *Dear Sir*—I do not know as it is the first, but you will find a half page or more of Dec. 8, 1877's issue of "CLINIC" (Cincinnati) on "Spring Catarrh."

I stated in the report that in a few series of years I had met with cases whose nature I was ignorant of, and had called them "Abortive Phlyctenular Conjunctivitis,"—then stating the name given by Saemisch, etc. I also stated results of treatment.

Since then on one or more occasions, I have given my experience with Yellow Salve in "Spring Conjunctivitis" (not Catarrh), and also eserine. Mydriatics are of no account, nor are astringents.

I cannot at this moment lay my hand on the various reports—probably all published in the CLINIC—though some may be in Society Reports. Saemisch's description is complete. W. W. SEELY, M.D.

4th & Broadway Sts., Cin.; O.

IMPOTENCE IN THE MALE.

GEORGETOWN, O., Nov. 27, 1884.

Editor Lancet and Clinic:

Is your formula (last article on page 620 of issue of November 22) correctly given? One-sixth grain strychnia sulph. appears to me to be pretty "full practice."

In an ounce instead of a drachm, according to my arithmetic, if minim and drop be considered the same, there would be one-forty-eighth grain of strychnia to the dose. Possibly the smallness of the drop

may make a greater difference than I suppose without testing.

Yours truly, THOS. W. GORDON, M.D.

[Dr. Gordon's letter was referred to Dr. Hammond, who sends the following reply. The prescription referred to has been published, as in the LANCET AND CLINIC, in a number of medical journals. The error is an important one and should be corrected]:

NEW YORK, Dec. 7, 1884.

Editor Lancet and Clinic:

The quantity of dilute phosphoric acid in the prescription to which you refer should be stated at one ounce (3i), instead of one drachm (3i).

As given it is, as your correspondent, Dr. Gordon, states, a dangerous prescription. Yours truly,

WILLIAM A. HAMMOND, M.D.

ERRATA.

COVINGTON, KY., Dec. 9, 1884.

Editor Lancet and Clinic:

In my article published in the LANCET AND CLINIC, December 6th, you have given the rather inappropriate heading of "Hydrochlorate of Cocaine in Obstetrics," instead of "Hydrochlorate of Cocaine in Gynecology" as I had intended. Also, in the fourteenth line from the top, second column, the sentence "This was removed twice" should read "This was renewed twice." J. D. COLLINS, M.D.

Society Reports.

CINCINNATI MEDICAL SOCIETY.

Meeting of November 11, 1884.

W. H. M'REYNOLDS, M.D. JOHN L. DAVIS, M.D.
President. Secretary.

DR. EICHBURG read a report of

Two Cases of Gall Stones.

The number of cases of this nature which annually, we might almost say daily, escapes the observation of both patient and physician is so large, that it is a matter of interest to record all experience bearing upon the subject, more particularly when the result of treatment has been as satisfactory as in the first case to be narrated.

The rapid strides of modern surgery have not failed to embrace the gall-bladder in the legitimate domain of abdominal surgery; and the brilliant record of Law-

son Tait has stimulated the ardor of many enthusiasts and silenced the doubts of the more conservative and prudent members of the profession. It is a great and praiseworthy achievement to save a patient from the excruciating pain and suffering, and from the many perils incidental to perforation when gall stones have once formed in the bladder; but it remains to be seen whether there be no other means than recourse to operation, by which this result can be accomplished. True, the results of the operation, as in the statistical table recently published by Musser & Keen, (1) are very reassuring, and a mortality of 29 per cent. is not to be regarded as considerable, where the death rate would possibly be larger without such interference. Still, many men will hesitate before urging their patients to consent to so serious a procedure, unless every other means of treatment prove fruitless.

Case 1. Mrs. L. H., æt 24, well developed, fairly nourished, of average size, and rather slender build, mother of one child, then seven months old; consulted me in the spring of the last year for peculiar paroxysmal attacks of pain, located in the right side, from which she had been suffering at intervals ever since the birth of her child. An elder sister had been similarly affected after her first pregnancy. The patient herself had previously enjoyed very good health, and, when not suffering from the acute pain of the attack, always felt well. The paroxysms generally came on a short time after eating, especially if the meal had been more than usually abundant, and were always attended by nausea and a sense of great prostration, so that the patient was compelled to take to her bed immediately. The duration of the attack was variable, sometimes lasting for only a few minutes, at others, extending over a period of several hours. There was always great pain in the right hypochondrium, sometimes radiating to the back, and then located just under the angle of the scapula, occasionally passing up into the right breast. The pain would come on with great intensity, become easier only to return with greater severity, and these alternations were continued until the paroxysm suddenly terminated as abruptly as it had appeared. The intervals between the attacks had been of shorter duration

lately, so that there was one attack almost every two weeks. At no time had there been any jaundice.

The history of the case at once led to the supposition of gall-stones as the cause of the painful attacks, and the patient was put upon a diet to be followed for several months. The diet was based upon the well known facts that the largest percentage of gall-stones have as their principal ingredient cholesterin, and that an excess of starch or sugar in the food leads to a surplus accumulation of fat in the system, and therefore a more ready excess of fat in the liver.

Bread, starch in any shape, and sugar were almost entirely excluded from the diet, save that a potato was allowed to be taken once a week, and oatmeal porridge for breakfast three times a week. At other times the breakfast consisted of milk and soft boiled eggs, the dinner of broiled meat, with some green vegetables, stewed fruit, and a glass of milk, and the supper of milk and eggs.

The patient consented to try the diet, but soon found the restrictions too irksome for her very good appetite, and partook as freely as before of whatever the table afforded.

Soon after I had prescribed for her, she left for her home in a Northern city, and I did not see her again until the month of May of the present year. She was then deeply jaundiced, suffering from a sub-acute gastritis induced by frequent hypodermics of morphia which had been administered almost daily for a week prior to her return to this city; and she stated, that, having consulted a physician in her own city, he had arrived at the same diagnosis, and had advised a continuance of the diet, with some physical exercise daily, and in addition, one drachm doses of phosphate of soda after each meal. The diagnosis had been verified by the finding of gall-stones in the discharges, and she herself had seen them; they were described as small, pyramidal in shape, with smooth surfaces and rounded edges, of a dark green color, evidently like those frequently observed in gall-bladders that contain a large number of calculi.

She had followed this advice for some months, and had then felt so well that she considered it needless to subject herself to any privation in the way of food; but, with

1 American Journal Medical Science.

the old indulgence, the old trouble returned. She was now considerably emaciated, tender over the epigastrium and right hypochondrium, partly on account of the pain itself, partly on account of the application of hot poultices, sinapisms, and local anodynes, such as chloroform and belladonna liniments, etc.

The attacks now came on at odd hours, entirely irrespective of the taking of meals, and the pain was much more intense than it had formerly been.

I had on the first occasion tried inhalations of chloroform with her, but found that it always produced gastric disturbances on the following day. Hypodermics of half a grain of morphia scarcely gave relief, and the sickness at the stomach was very distressing and interfered with any effort to stimulate the patient or improve her nutrition by taking wholesome food.

Thinking that the gastric difficulty should first be overcome, and believing the morphia, with the necessary constipation, to be largely responsible for this, I ordered the patient to bed, to be placed on a simple milk diet, of which three pints were to be consumed daily, and to be removed from all possible source of excitement in the way of visits from friends and relatives. This measure was considered necessary, as the patient had become fretful and anxious from the frequent recurrence of the attacks and the loss of sleep. The medicinal part of the treatment consisted in the administration of a teaspoonful of Karlsbad salts in half a pint of warm water every morning, and of one drop of a mixture containing equal parts of tr. iodine and creosote, every four hours in a glass of water. There was some difficulty experienced in confining the patient to the milk, which she loathed at first, but she soon learned to take a sufficient quantity. She was kept in bed for three weeks, and at the end of that time had gained in flesh and strength, the yellow color had disappeared, and though there had been two attacks in the interval, the patient felt herself much better than before. Gradually a few additions were made to the diet, principally in the way of albuminous food, and the Karlsbad salts were replaced by half drachm doses of phosphate of soda, taken after meals, with the drop of iodine and creosote before meals. She again left the city after her recovery, took her exercise in the way of daily rides on horseback,

and has now been free from any trouble for a period of more than six months.

The second case is that of an elderly gentleman, aged about 60 years, fairly developed and rather poorly nourished, who has followed the business of compounding spirituous liquors. In the course of his calling he was compelled to be tasting strong essences and flavors, by placing small quantities upon the tongue, and then either retaining or rejecting the substance in question.

He had at various times suffered with dyspeptic symptoms, and about eighteen months ago was very seriously ill with some sub-acute gastritis.

The family history is good; the only noteworthy fact is that one brother died of carcinoma of the stomach at the age fifty-five.

I was sent for by the patient in consequence of the pain occasioned him by some external hemorrhoids, which were removed by ligature and scissors six months ago. Soon after the operation the patient was seized with a severe attack of pain in the right hypochondrium, with great nausea, with some chilliness, followed by fever and with tenderness to pressure in the painful area. He stated that attacks of this kind had attended the gastric trouble for several years past, though they had not been frequent, there always being an interval of several months between any two successive attacks. He now manifested a slightly yellowish discoloration of the skin and conjunctiva, a dark brown color of the urine, and the characteristic clay-colored stools of obstructive jaundice. This condition has now persisted for five months. During that time he has had several of these very painful attacks, the pain being located in the right side and extending to the back; the jaundice always became much more intense after each attack, and then gradually faded away, leaving the skin, however, darker than it was before the attack. The stools have remained of the peculiar whitish-grey color, of very offensive odor, and pasty consistency. At times there has been very severe and prolonged diarrhoea, requiring the use of very large doses of opium before any improvement would follow. The diarrhoea was never watery; the discharges were copious and always of the pasty consistency.

There has been another very striking

symptom, recalling the train of symptoms observed by various physiologists after the establishment of a biliary fistula in many of the lower animals; namely, that despite a voracious appetite and the ingestion of the most nutritive kind of food in enormous amounts, the patient gradually emaciated and has grown almost steadily weaker.

There has also been present a symptom frequently found in jaundice, and often noticed in the convalescence from yellow fever—a persistent and very annoying itching of the skin in all parts of the body. The urine has been repeatedly examined, but contains no abnormal ingredient save the coloring matter of the bile.

The patient has always been a rather eccentric man, quick-tempered, very positive in his ideas, and intolerant of contradiction, and the management of the case has been rendered more difficult on that account.

It was impossible, as in our first case, to place the patient upon a restricted diet; feeling himself at times in comparatively good condition, he would call for the most indigestible articles of food, and the tender fears of his relatives would lead them to gratify his whims. The quantities that he daily consumed, and still exacts, would suffice for the maintenance of at least two strong, able-bodied, hard-working men; his meals average about seven per diem.

The diet has been restricted as far as possible to milk, koumiss, oatmeal mush, stale bread, and broiled meat or fowl. The medical treatment was introduced in the same way as before, but soon had to be discontinued, as the Karlsbad salts, phosphate of soda, and some Durande's mixture produced the severe diarrhoea. The patient is now taking a mixture of bi-carbonate of potassa and tincture of kino, and seems to be doing fairly well. He has not had an attack of what I considered biliary colic, in the last three weeks, and his general condition seems slightly better.

Dr. Brühl, who treated the patient in a former illness, and who has kindly aided me with his counsel in the management of the present trouble, informed me that he considered the affection to be in the nature of gall-stones, some years ago, and coincides in the diagnosis made of the case; namely, that we have here an impacted

gall stone, which closes the common duct, that the attacks of pain coincide with changes in position of the calculus, and that the outlook is not particularly favorable.

I will add that physical examination of the abdomen reveals no tumor that might correspond with an enlarged or distended gall-bladder, nor is there anything in the way of nodular enlargement of the liver.

DISCUSSION.

Dr. DAVY said that from the fact that there was no previous history of gall-stone and no account of the calculi being found in the stools, he thought the question of malignant growth should be considered, though from the fact that gall-stones had been diagnosticated three years previously, it was probable that this was the cause of the symptoms now.

Dr. EICHBERG said the question of carcinoma had been considered, but had been excluded on account of the paroxysmal nature of the attacks. The attacks of discoloration of the skin and its deep jaundiced hue, instead of the chronic cachexia of malignant growth, were of importance in reaching a diagnosis.

He accounted for the paroxysms by supposing them to be caused by one and the same stone advancing slightly at intervals, causing the pain and re-establishing the completeness of the obstruction.

Dr. MARSH said that from the symptoms of the case, especially from the absence of a tumor of any sort in the region of the gall-bladder, it would seem that the calculus must be situated in the hepatic duct above its junction with the cystic duct.

If surgical procedures were instituted the speaker thought this might be a case for Lawson Tait's operation of crushing the stone within the duct by means of padded forceps.

Some doubts were expressed, however, as to the feasibility of this operation. Even if the procedure should prove immediately successful, the violence to the duct walls might result in such injury as would lead to subsequent cicatricial contraction and a consequent return of the obstruction.

AN exhaustive article on the Labor Organizations of the United States, by Colonel Hintin, giving full statistics and many important facts, is to appear in the January number of *North American Review*.

CHICAGO MEDICAL SOCIETY.

Meeting of November 10, 1884.

DR. D. A. K. STEELE, DR. L. H. MONTGOMERY,
President. *Secretary.*

A large attendance of members and visitors was present to hear the following reports:

Two Cases of Gastrostomy.

The following recent cases in the surgical practice of Dr. Edmund Andrews are of interest because of the numerous unsettled questions which cluster round the operations referred to.

The first two cases referred to, viz.: gastrostomy, which, by way of preface, was stated by the author to be a barbarous word — an etymological blunder so far as literary usages are concerned, composed partly of Greek and partly of Latin. The “philological monstrosity,” being apparently an attempt by its author to enlarge the word gastrotomy, which literally signifies stomach-cutting, and by the addition of a syllable to signify a mouth, so as to make the compound mean a cutting of the stomach to make a mouth, literally a stomach-mouth-cutting. The author dilated further upon the word, relative to the derivation, meaning, etc., and closed by saying that the word should be gastrostomy, and even then there would be nothing left to signify the cutting, therefore, to express the full meaning of stomach-mouth-cutting would require the form, gastro-stomatomy, a word whose length and harshness of sound is sufficient for its condemnation. Suffice to say, euphony in sound and scholarly composition are two important requisites which are often ignored by surgical authors, both of skilled and pedantic pretensions, and proceeded to a perusal of a brief synopsis of the balance of the paper.

Case 1 was a little girl aged 6 years, who swallowed some concentrated lye several months previously, cauterizing the lower part of the œsophagus, and gradually inducing a stricture. Dr. E. P. Cook, of Mendota, Ill., dilated the stricture, after which the child was sent home greatly improved. After leaving his care she relapsed; she was placed in care of the writer. Upon her arrival it was ascertained that she had been unable to swallow anything for a number of days. Dilatation was essayed and the patient improved for a time, regaining a partial power of swallowing

liquid food. However it was soon perceived that the advantage thus gained could not be maintained, and after faithful trial it was soon perceived that the little one was gradually starving. So-called gastrostomy was then performed [The surgeon persisted, however, in his remarks that gastrotomy was the more scholarly term.—ED.] in a room which had been sprayed for an hour with carbolic acid, but the spray was not allowed to touch the peritoneum. The usual incision was made in the hypochondrium from the xiphoid cartilage downward, and to the patient's left. The colon was found partly in the way, but was easily pushed downward. The stomach was then drawn out with long-toothed forceps, the viscus was identified by the relations of the gastro-epiploic vein, and secured to the abdominal wall by a long suture on each side, as starvation was feared would ensue had not this plan been pursued, and the patient's life still further jeopardized, so the stomach was opened at once, and its edges sewed closely to the skin all around the incision.

There was a good deal of shock, but reaction occurred, and union by first intention followed, without difficulty and without peritonitis. Peptonized food was regularly inserted, and on inspection was found perfectly digested, except when meat was used. This, whether raw or cooked, would be ejected from the wound unchanged, even when retained twenty-four hours.

For some days the patient improved, but it soon became evident that most of the food, though digested, did not pass thro' the pylorus. It seemed that this orifice of the stomach required a little pressure to unfold it and when the stomach contracted for this purpose, the chyme escaped thro' the fistula into the dressings, and did not pass on into the intestines. A rubber pad tight enough to stop the outflow could not be tolerated. A soft rubber tube with a flange and valve was substituted, in which the inner disc could be adjusted to the inner wall of the stomach, then by clamping the tube outside of the outer disc to the wall of the abdomen a perfect valve was obtained which prevented leakage. The effect of the inner disk on the walls of the stomach was feared at first, but it produced no perceptible irritation.

The opening in the stomach was purposely made pretty large, the surgeon hop-

ing at a future time to introduce a finger upward into the lower end of the œsophagus and then by pushing down upon it would restore the natural passage.

As above stated, the valve retained the food perfectly, and the patient took an abundance, and even learned to know when she was hungry, and to call for her meals. The improvement was but temporary, however, she began slowly to fail without obvious cause. The power of assimilation appeared to exhaust itself, and she constantly grew weaker. At the twenty fifth day after the operation it became evident that she was at about the end of her life. The last twenty-four hours were accompanied by an obscure fever.

Case 2. An adult male patient. Six months ago he swallowed some caustic ammonia, producing a contracting ulcer of the lower part of the œsophagus. In September last he placed himself in the care of the writer, having been unable to swallow anything for some days. By a persistent use of bougies the stricture was dilated and the power of swallowing liquid food restored. He then returned home, having learned to introduce the bougie himself. In time, however, he lost the art of passing the instrument, and in October returned in the same condition as before. Diligent trials to dilate the stricture a second time gained only a slight temporary power of passing small quantities a day or two at a time, and within a week or so it was perceived that his progress was downward, and that he was slowly starving. Moreover, the point of the bougie seemed to be creating a local inflammation in the right lung, as if they were making a false passage in that direction. To continue their use, therefore, was not deemed judicious, and they were accordingly discontinued and an operation was accordingly decided on at once, and not allow the patient to become weaker.

The operation was the same as in the former case, except that the opening was smaller. The same difficulty of regurgitation of the food prevailed, and was controlled in a similar manner.

The patient is now doing well, and bids fair to recover, and at time of reading the paper, thirty-two days since the operation, is improving nicely.

The method pursued by Mr. Howse of London, and those of other surgeons was dwelt on to some extent, with their advant-

ages, disadvantages, etc., etc. The operation should be done with extreme caution. Regarding the statistics of this operation, this is not very cheerful. Of 207 recorded cases 40 were for cicatricial strictures of the œsophagus, like those just cited. Of these 40, 21 died, yet when no other hope of life or relief is offered, an operation which gives them one chance in two is a great benefit.

Excision of the Rectum,

Of which the author cited two cases that he at present has under treatment, our reporter has synopsized as follows:

Case 1 was epithelioma, not reaching down to the verge of the anus. In operating the entire external sphincter was saved, the incision was carried from an inch in front of the anus back to the coccyx, opening the anus antero-posteriorly and cutting off the gut just above the verge. After dissecting it upward a little and tying numerous vessels, the rectum was separated from the pelvic chamber, mainly with the finger, and the tube divided about three inches upward, just above the top of the cancer.

There was no shock and not much subsequent pain or inflammation.

Case 2 was almost exactly a repetition of the first, except that the verge of the anus was involved in the disease, and consequently was dissected out with the rest.

Both patients are very comfortable and are doing well, but it is too early to state whether there will be any return of the disease.

Statistics: The statistics are much like those of epithelioma elsewhere. Billroth, of Vienna, thinks that he annually saves one-third of the cases. Other authors were cited, and lastly, of 608 cases collected, 140 died of the operation, and of one hundred of those who survived the operation, whose accounts were traced up, thirty-one were doing well at the end of one year, and seventeen were alive and well, with no return of the disease, at the end of three years.

Litholopaxy.

DR. ANDREWS has operated twenty-three times. He is confident that the plan he pursues of keeping the nerves of the bladder benumbed during the operation by filling it with carbolyzed water, tends powerfully to prevent both shock and inflammation.

It is worthy of inquiry whether the remarkable local anæsthesizing properties

of the new agent, cocaine, would not enable us to operate without ether and without producing shock. * * *

A New Instrument for Operating on Varicocele.

Was the next topic discussed by the writer. Operations for destroying the veins in varicocele have produced, occasionally, death, and in other cases resulted in neuralgic scrotum, with or without atrophy of the testicle. Many surgeons have followed the lead of Prof. Frank Hamilton in preferring Sir Astley Cooper's plan of shortening the scrotum sufficiently to make it its own suspensory bag. This plan is vexatious, because the imperfect character of the old-fashioned adhesive plaster rendered it difficult to support the sutures sufficiently to secure union by first intention. Now that we have the rubber plaster which never lets go its grip, we can cut the scrotum very short and still hold the wound firmly together, and secure a triumphant success. Sundry clamps have been invented to hold the skin of the scrotum firmly while the surgeon cut it off and sewed it up. The evil of the clamp is that it compresses the arteries, so that after cutting away the pouch the surgeon is unable to find and ligate the vessels. If he sews up the wound without attending to this point, experience has shown that after the clamp is removed, hemorrhage often takes place inside the scrotum, distending it with clot and forcing open the wound, thus delaying the cure.

To meet this difficulty the author has devised a kind of "varicocele bow," which he exhibited and described as follows:

It consists of two curved parallel bows, connected at the ends and enclosing a slot three-eighths of an inch wide between them. Twelve holes are drilled through the bars, of a size to admit ordinary pins. The surgeon draws the scrotum through the slot, having the concave border toward the base of the scrotum, to such a distance as he deems sufficient, secures it by inserting, one by one, as many pins as he finds necessary to hold the pouch securely. He then cuts off the scrotum outside the convex border of the bars. As the scrotum is not pinched by the instrument the blood spouts freely, especially from the artery at the raphe. The operator can carefully and deliberately secure every bleeding point. This being accomplished he sews the cut edges together, and drawing out the pins, removes the bow and applies his plasters.

The neatness and dispatch of the operation are thus greatly enhanced.

The following abstract was upon one of the principal topics under discussion, and relates to the condition of affairs at the Cook County Insane Asylum. The matter came up under the head of

Political Abuse of the Insane,

By Dr. S. V. Clevenger, who submitted a lengthy treatise in which he referred to the young science of psychiatry, which had gradually developed until a life's study was now necessary to place one in possession of what is now positively known concerning the anatomy, physiology and pathology of the human mind. Stating that European governments subsidize laboratories and salary eminent physicians, the lecturer contrasted with this fact the condition of things existing in the average American asylum, more especially those controlled by local trustees instead of by legislatures. There is, he said, a wonderful uniformity in the degradation of American institutions for the insane; the same brutalities are rife in them; the employees are generally of the same class; the same intriguing, bickering and general roguery also occur, and all of the so-called physicians are generally of the same stripe; the same air of secesy is maintained in one as in the others.

Dr. Clevenger related the murders which occurred in the Utica, N. Y., Asylum. They were investigated, but the papers were stolen before the legislature could act upon the report.

Recently in a Kentucky asylum the murder of a legislator who had become insane came to light. In another asylum in the same state the superintendent on one occasion shot into a crowd of patients. In the Ward's Island, N. Y., asylum it was proved that a patient's ribs had been broken. A number of similar instances were cited. — While the author admitted that the majority of asylum attendants were kind-hearted, the pernicious influence of the brutes is too prominent to be overlooked. These brutes were mostly active workers in political campaigns, who felt entitled to the political spoils. The average official who appoints such men is often of the same stripe. When \$200,000 or \$300,000 are yearly appropriated for the maintenance of an asylum the chances for a division are excellent, because the inmates do not know enough to complain, and any official who is not corrupt is easily intimidated into silence.

If he cannot be entangled in some scandal or some other hold cannot be secured upon him the gang often concocts a scheme out of whole cloth and uniformly swears to it. It is pure accident if a good physician succeeds in effecting an entrance to an asylum as an appointee. The charlatan who abides in saloons and is well acquainted with the "boss," or members of the gang, stands the best chance for election to office. Such a person is usually of the bummer order, who delights in pistol shooting and threatening, who prostitutes his position in all sorts of ways for the benefit of low politicians.

Speaking of his own particular case, which was presented to the County Board yesterday, the doctor presented a list of all the officers employed and their salaries, in the Cook County Asylum. He proved by his list that the medical officers were discriminated against. Anything medical, he said, is contemptible in such precincts. Only politics is glorious. The lady physician is consigned to an unheated room, and she has had to put up with insolence and obstruction, even to the extent of having patients taken from her because it was discovered that they were recovering under her treatment.

Dr. Kiernan, the present superintendent, who was accidentally elected owing to the disreputable and disgruntled political gang quarreling among themselves, is known all over the world and to every member of this Society as a physician devoted to the treatment of insanity. It was no new task for him when he began to clean the rascality out of Cook County Asylum. Dr. Kiernan's first order to the attendants was to restrain no patient without an order from a physician. A great uproar followed. This was an unheard of proceeding there, and much nonsense was talked over the new order. The next order was that the night watch were not to issue medicines to patients at their own will, but were to call up a physician. As much as ten gallons of sleeping potions were doled out per month in the most unskillful manner to all classes of noisy patients. Any death resulting from this was of course attributed to "exhaustion from insanity."

Among the new arrangements which disgusted the gang most of all was that requiring employes to take off their hats in the wards and speak to patients in a decent manner. The most recent change made

was to stop the appropriation of the labor of the inmates by a heterogenous crowd of scamps and divert the insane work to their common benefit. The patients are insufficiently clad, and it was only right that the sewing done by them should be for their own benefit.

At the Chicago Asylum the political individual is in the ascendancy. The warden, Mr. Varnell, recently declared himself in public as the boss of that place, and said that he proposed to turn out all the doctors but one, and that all employes not Democratic must go. Intriguing for place and against the physicians has taken up the major efforts of the lay officials and the greatest injustices and annoyances are practiced against the medical staff. It is publicly known, said the doctor, that a notorious gambler has controlled the appointments at the asylum for many years; has had his numerous hunting dogs kept there upon county beef and milk, and that the present opposition to the medical men is in the name of this "boss." The patients are insufficiently fed and scantily clothed. They suffer for everything. The medicines are impure and often valueless, and by investigation without whitewash in it, many terrible things may be brought to light.

DISCUSSION.

Dr. Clevenger read a report of the lady physician of the same institution, which corroborates all the allegations made by him, and this was followed by a discussion, during which Dr. G. C. Paoli argued that the only remedy was to transfer all such institutions as the Cook County Asylum to the State. This would at least secure more capable employes, and more competent medical officers.

Dr. Clevenger was of the opinion that all public institutions containing more than 100 inmates should be placed under the control of the State Board of Charities.

Dr. J. C. Cook spoke highly in favor of the State institutions, remarking that the patients there were treated well. Inhumanity sometimes occurred even there, but it was speedily found out and swiftly punished.

Dr. Newkirk held that the responsibility rested as much with the medical profession as with any one else. The profession should unite and take some steps to reach the legislature for proper remedies.

Dr. CLEVENGER added that the drugs in

the Cook County Asylum were impure and inert.

Mr. DAVIDSON, the druggist of the Institution substantiated this, adding that not only the quality but the quantity of the drugs was inferior. Two requisitions for drugs had been entirely withheld, and the stock on hand had nearly run down.

The Secretary read a letter from the Citizens' Association, requesting that the Chicago Medical Society appoint a number of physicians to act in conjunction with laymen in investigating the charges of mismanagement at the County Insane Asylum. Drs. C. G. Smith, E. Ingalls, C. G. Paoli, R. Tilley and C. W. Earl were appointed by the chairman, the Citizen's Association to select the names of three of the five presented.

A very elaborate and appropriate address, "The Fourth Annual Report of the Shan Tung Dispensary and Hospital at Pang Chia Chuang," prepared by Dr. Henry D. Porter, who was for a number of years a resident missionary in China, was delivered by Dr. John H. Chew. It was an able paper and keenly appreciated. It set forth plainly the experiences and views of the essayist as to the diseases of the Orient. A vote of thanks was tendered its author through the reader.

Dr. John Bartlett presented the following special report to the Society in behalf of the committee on

National Sanitation.

The Committee appointed at the meeting of this Society, September 15, 1884, to consider and report upon a series of resolutions, having reference to National sanitary matters, presented by Dr. Liston H. Montgomery, respectfully report the following preamble and resolutions as suitable to be adopted:

WHEREAS, Experience has firmly established the fact that the ravages of certain infectious and contagious diseases may be in good measure prevented, controlled or arrested by the enforcement of suitable sanitary regulations, and

WHEREAS, The United States is constantly exposed to the importation of disease from foreign countries, and because of the facility and rapidity of inter-state transit to the rapid spread of infection once finding lodgment on our borders, and

WHEREAS, This exposure, because of the prevalence of cholera in Europe, is just now unusually great, and

WHEREAS, The facts are that matters of sanitation are in some of the States of the Union entirely neglected, while in others they are simply taken cognizance of by the appointment of Boards of Health, in their functions advisory only, and not vested with powers of authoritative action, and

WHEREAS, Either of these State Boards of Health as now constituted may prove derelict or inefficient in its duties, or act without concert with or even in antagonism to the Boards of other States, and

WHEREAS, The exigencies occasioned by the appearance of violent epidemics demand organized means for the prompt recognition of the outbreak of disease and vested with authority limited in its area by the boundaries of the country only, to take immediate steps in matters of protection, as vaccination, isolation, quarantine, etc., as experience has taught to be useful, and

WHEREAS, No National authority in sanitary matters now exists, therefore

Resolved, That it is the judgment of the Chicago Medical Society that the sanitary interests of the United States demand the establishment of a National health authority which shall have for its main functions the detection of pestilential and epidemic diseases, and the enforcement, where necessary, of sanitary regulations tending to prevent or to suppress them.

Resolved, That as a step toward the consummation of the idea suggested in the foregoing resolutions, a committee of three be appointed by this Society to collate facts tending to show the usefulness and necessity of a national sanitary organization, and to compile the same in such form as may be available for disseminating information upon and creating an interest in national sanitary legislation.

Resolved, That the committee be empowered and instructed to urge the importance of national sanitary legislation upon the attention of the Congressional delegation from Illinois, and fittingly to present the subject to the Representatives of the people in both Houses of Congress.

All of which is respectfully submitted,
(signed)

O. C. DEWOLF, *Chairman*.
R. E. STARKWEATHER,
L. H. MONTGOMERY,
JOHN BARTLETT,
J. H. ETHERIDGE,
A. R. JACKSON,
J. H. HOLLISTER, *Committee*.

A motion prevailed that the resolutions

be voted upon seriatim, when they were unanimously carried. After which the suggestions embodied therein were adopted as a whole without a dissenting voice, and Drs. John Bartlett, Ralph Starkweather and John H. Hollister were appointed members of the committee.

Interesting papers were then read on "Hydrochlorate of Cocaine," by Drs. B. and J. Bettman, and its use in ophthalmic and nasal surgery in the following cases which our reporter has listed: operation for stricture of the nasal duct, removal of foreign body from the cornea (the same being a piece of steel which had been embedded for two days), application of cocaine to relieve pain in a case of otitis media purulenta, operation for cataract, in each of which its anæsthetic powers were extremely satisfactory; also in a case of asthma nervosum, illustrating the applicability of the remedy to permit cauterizing portions of the inferior turbinated bones. We are obliged to omit further mention of these papers on account of space.

ABORTIVE TREATMENT OF SOFT SORES. Prof. H. von Hebra (*Wiener Med. Presse*) advises as follows: After thoroughly cleaning the sore, it should be treated with a preparation of spirit and potash-soap, carefully dried, and pure salicylic acid applied to the sore, which must be covered up with plaster. The treatment succeeds best when this application is renewed for two days running, and the sore suppurates freely. After three days the sore is covered with a white scab. The salicylic acid should now be abandoned, and an emollient ointment spread on lint employed in its stead. The scab speedily separates, and the wound readily heals without any likelihood of a bubo forming.—*The Practitioner*.

ERGOT IN THE TREATMENT OF CONSTIPATION.—Dr. Granzio (*Allgemeine med. Cent. Zeit.*) reports two cases of constipation, following the abuse of purgatives, relieved by ergot. Three doses of ten grains each were given at intervals of two hours, and were followed by a copious evacuation. A second stool occurred spontaneously the next day, and after the administration of ergot in smaller doses for a few days a definite cure was obtained. The constipation was due to atony of the muscular wall of the intestines.—*The Practitioner*.

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Cincinnati, December 13, 1884.

Bibliography.

MALARIA AND MALARIAL DISEASES.⁽¹⁾

A work from the pen of this distinguished microscopist on any subject about which he might choose to write, would be read with great pleasure; but when the subject is of such universal interest as "malaria," a distinctly zymotic disease, and supposed to be due to a microbe, we would of course expect much light from his individual research as well as the opinions of all the latest writers on this topic.

On reading the work, written in the author's usual interesting style, we were at first disappointed because he did not at once reveal to us the name and nature of the exact microbe causing the disease. His first definition of 'malaria,'—an unknown poison, of telluric origin, the cause of periodic fevers," seemed to be a confession that he had only speculations to give us. The careful reading of the book, however, convinces us that it is a valuable work; not, perhaps, on account of the new material which it contains, but rather because it presents in a concise form about all that is known on this universally interesting subject.

The following heads are thoroughly dis-

¹ By George N. Sternberg, M.D., F.R.M.S., Major and Surgeon U.S. Army, etc. New York: Wm. Wood & Co.

cussed in the light of the most recent researches:

Malaria.

Mode of Infection.

Conditions Governing the Evolution and Dissemination of Malaria.

Speculations and Researches Relating to the Nature of Malaria.

General Effects of Malaria-Antidotes to Malarial Poisoning.

Prophylaxis.

Geographical Distribution.

Malarial Diseases.

Malarial Intermittent Fever.

Continued Malarial Fevers.

Hemorrhagic Malarial Fever.

This is the July number of Woods' Library of Standard Medical Authors, and is a valuable work for the general practitioner.

DISEASES OF THE NOSE. (*)

Prof. Wagner says in his preface: "In an experience extending over twenty-five years, nearly fourteen of which have been devoted exclusively to the study of the diseases of the nose and throat, I have enjoyed unusual opportunities in private, hospital, and dispensary practice, for gathering and utilizing material upon which to base this work."

He begins with the anatomy of the nose and nasal fossa. In addition to the ordinary drawings, mostly taken from Sappey, are some original cuts, one of which, taken "from a carefully prepared frozen section of the head," is specially valuable for showing the correct relation of the turbinated bones.

The next chapter on the physiology of the nose is quite full, especially in reference to the proofs of the position of the terminal distribution of the olfactory nerve. Speaking of the sinuses opening into the nasal cavities, he says: "Though they are thus incapable of perceiving odors, yet they have no unimportant relation to the organ of olfaction, for they serve as reservoirs for the odoriferous particles which we snuff up through our nostrils, and not being directly in the respiratory

channel, the odorous particles may there remain undisturbed for several hours. *

* * * One often distinctly perceives an odor several hours after having left the locality in which the odor alone existed, and this return of the odor can only be satisfactorily accounted for by accepting the above explanation." I think that this theory may not be accepted by all without otherwise impairing the value of the book. The utility of introducing into such a work separate sections treating of the sense of smell in birds, reptiles, fish, and the invertebrates may be questioned, although this subject of comparative physiology is of great interest.

The chapter on instruments is quite meager, although perhaps enough are described for the beginner. Those that are described are as a rule of the very best and should certainly be in the possession of every surgeon who treats this locality.

The directions for practicing rhinoscopy are clear and well illustrated, and certainly contain some excellent advice in regard to the management of that frequently obstreperous organ, the tongue.

In place of the commonly used terms "acute and chronic nasal catarrh," the author uses "rhinitis, acute and chronic." This is certainly a change in the right direction, as the employment of the term "catarrh" by the advertising quacks has rendered it exceedingly objectionable.

We decidedly differ from the author in his view that the "practice of sleeping during the inclement months of winter, in a chamber with the window raised from the bottom, or lowered from the top, is imprudent, and not an unfrequent cause of chronic rhinitis."

In the treatment of chronic rhinitis, he advises the application of solutions of the mineral astringents by means of a cotton holder or post nasal brush, rather than the spray which he says, "is very liable to cause severe pain." In the medical and surgical treatment of chronic hypertrophic rhinitis, the author gives great latitude, and all of the most approved methods are explained.

The chapter on diseases of the septum with the various methods for relief is very thorough. The author favors the use of the burr drill for removing exostoses which occlude the fossæ.

Then follow chapters on Epistaxis; Tumors; Adenomata at the Ventrals of the

2 By Clinton Wagner, M.D., Professor of the Diseases of the Nose and Throat in the New York Post-Graduate Medical School; Senior Surgeon Metropolitan Throat Hospital, etc. With Illustrations of Instruments and Pathological Conditions. New York: Birmingham & Co., 28 Union Square,—'84. 800. Price, \$2.50.

Pharynx; Fibromata; Cystomata; Malignant Tumors; Foreign Bodies; Calculi, etc.; Abscess of Antrum; Diseases of Frontal Sinuses; Congenital Malformation of Nose; Anosmia; Smell, Hygienically and Medico-Legally Considered; and an Appendix of Cases.

The work is beautifully printed, large, clear type, on two hundred and fifty-two octavo pages.

ŒSOPHAGUS, NOSE, AND PHARYNX. (*)

This August number of Woods' Library of Standard Medical Authors, well exhibits the enterprise of the firm in presenting to American readers the second volume of Mackenzie's most thorough work before the English edition has appeared in market.

The name of the distinguished author is a guarantee of its worth. The first two-fifths of the work is devoted to diseases of the œsophagus, and an equal space to diseases of the nose, and the remaining fifth to affections of the naso-pharynx. This subject, fraught with so much of practical interest, is so little understood by the average practitioner that this volume is well worth the price of the year's subscription to the Library.

SURGICAL DELUSIONS AND FOLLIES. (*)

This is a little book of fifty-six pages made up of the author's address delivered at the thirty-fifth annual meeting of the Medical Society of the State of Pennsylvania, "augmented by a number of paragraphs on kindred topics that have for the most part appeared in the columns of the 'Polyclinic.'"

The subject matter is discussed under two headings, *i.e.*, "Surgical Delusions," and "Surgical Follies,"—although the

delusions are often follies, and the follies, delusions, as Drs. Christopher and Reamy of this city will testify when they read "Of what use is a sixteenth or an eighth of a grain of morphia to a man with severe pain? Give him a quarter of a grain or even a half, repeated if necessary, and he will soon be comfortable and thankful." The contents are well enough for an address, or, maybe, for the "Poly-clinic," but are poor stuff for a book.

AN AID TO MATERIA MEDICA. (*)

The introductory gives the scope of this small volume. "This little work aims to present, in brief space and tabular form, all the drugs and preparations recognized by the present Pharmacopœia, with their doses expressed in both the apothecaries' and metric systems; also the exact composition and strength of all preparations. Synonyms, pronunciation, and in the case of drugs of vegetable origin, the derivation (as plant, shrub, tree), and habitat are given. A table of solubilities in water and alcohol has been added. * * * No other book save the Dispensatory presents the facts grouped here."

There are also a number of blank interleaved pages for the addition of any new, or unofficial drugs. A very excellent method for writing metric prescriptions is given at the end of the volume.

MICRO-ORGANISMS AND DISEASE. (*)

This little work is a reprint of the excellent series of papers which have recently appeared in the *Practitioner*. As stated by the distinguished author, in the preface, the book is not intended as an exhaustive treatise, but states in a brief way the most important points bearing on investigations into the life history of micro-organisms connected with infectious diseases.

Most of the investigations recorded were carried out for the Medical Department of the Local Government Board during the past ten years.

5 By Robert H. M. Dawburn, M.D., Late Resident Physician to the Nursery and Child's Hospital, New York City. New York: J. H. Vail & Co. 1884.

6 An Introduction into the study of Specific Micro-Organisms. By E. Klein, M.D., F.R.S., Joint Lecturer on General Anatomy and Physiology in the Medical School of St. Bartholomew's Hospital, London. 12° 191 Pages, 108 Engravings. McMillan & Co. London. 1884.

3 A Manual of Diseases of the Throat and Nose, including the Pharynx, Larynx, Trachea, Œsophagus, Nose and Naso-Pharynx. By Morrell Mackenzie, M.D., Lond., Consulting Physician to the Hospital for Diseases of the Throat, etc. Vol II, Diseases of the Œsophagus, Nose, and Naso Pharynx. New York: Wm. Wood & Co. 1884.

4 A Revision of the Address in Surgery for 1884 of the Medical Society of the State of Pennsylvania. By John B. Roberts, A.M., M.D., Professor of Anatomy and Surgery in the Philadelphia Polyclinic, Surgeon to St. Mary's Hospital. Philadelphia: P. Blakiston, Son & Co., No. 1012 Walnut Street, 1884. Cincinnati: Robt. Clarke & Co.

The opening chapters comprise a brief description of the methods in vogue of staining, examining or cultivating micro-organisms in general, and the description of the processes of sterilization of culture media and the generation of pure cultures, illustrate in a striking manner the extreme care that is necessary to success in these manipulations, and the very important bearing which an accurate technique has upon all conclusions in respect to the relations between micro-organisms and disease. To failure in this respect, must be attributed the great mass of confusion and contradiction between authorities in this field. This is remarkably illustrated in Chapter XVII, discussing the relations between septic and pathogenic organisms where Buchner's views on the conversion of the hay bacillus into the pathogenic bacillus of anthrax are examined. In this case the great necessity for accurate manipulation, is shown by the failure arising from contamination by working with two species of bacillus at the same time in the same laboratory.

The bulk of the work is occupied by the treatment of morphology of micro-organisms. The closing chapters on the vital phenomena of pathogenic organisms, vaccination and immunity, and the chapter on antiseptics are especially valuable.

It is the adoption of the *antidote* theory of Klebs to account for immunity, though a matter of scarcely any practical importance, seems nevertheless open to objection. If the immunity be due to a chemical antidote, elaborated either directly or indirectly through the agency of the micro-organisms at the time of the first attack, why should the pathogenic organism thrive so abundantly at the culmination of the attack when the peculiar chemical antidote should be most abundant? Moreover, it is impossible to conceive of a definite and limited amount of a chemical principle continuing in the body, without decomposition or elimination, for a number of years without some source of renewal, and such a source can only be found in some more or less permanent alteration in the vital phenomena of the tissues.

Altogether, this little work by a great authority, will be welcomed by the profession as an excellent summary of the latest developments and present state knowledge in the busy field with which it deals.

F.O.M.

Selections.

MEDICINE.

THE NERVOUS DISCHARGE. (By Charles Mercier, M.B., in *Brain*, for Nov.)

We eat and we work. These are the two great functions of the human organism—all of all animate beings. All other functions save the reproductive are subservient to these two, and these two reciprocally subserve each other. We cannot work without eating; we work in order to eat; and we cannot eat unless we work.

What happens when we eat? Food is taken into the body, and therein undergoes various transformations. It is dissolved, recombined, absorbed, circulated, combined into tissue, oxydized, decomposed, dissolved and ejected. We can sum up all these changes in one word—rearrangement. The atoms and molecules of the substances forming the food are rearranged into solutions, rearranged into blood-plasma, rearranged into tissue, and finally rearranged into combinations which are of no further service to the organism, and which are then expelled.

The whole history of the food and oxygen that are taken into the body consists in successive rearrangements of composition and changes, that is, rearrangements of place from the time they enter the body until the moment they leave it. All the functions of mastication, deglutition, digestion, absorption, assimilation, circulation, nutrition, growth, secretion and excretion, are parts of a single process—the rearrangement of matter within the organism.

How do we work? By moving our muscles. This is the one and only means by which we can alter the world outside of us. When a muscle contracts, a considerable movement of some part of the body occurs. Even when the muscle has repeatedly contracted, there does not result a large rearrangement of matter within the organism. A little of the muscular structure has been used up; a little new material has been introduced; but at the end of the exertion the arrangement of the muscular structure is but little different from the arrangement that it had at the beginning. Where then has all the motion come from, seeing that motion no more than matter cannot originate from nothing? Obviously the molar motion of the muscles and limbs has been supplied by the transformation of molecular motion. There has not been a large re-

arrangement of matter, but there has been a large redistribution of force within the organism. The redistribution of force in great quantities and to great distances, without any discernable rearrangement of matter, occurs in every electric-light lead and in every telegraph-wire. The contraction of the muscles is set up by the delivery of a shock of force at a nerve-end—another redistribution of force. This shock has travelled — has been redistributed — from a nerve-centre. The nerve-centre was provoked to emit its force by the arrival of a shock from some other region of the body, and we may continue to trace the communication of force from one part of the body to another, until we ultimately find that the whole process was set going by a force impressed on the organism by some moving thing in the outer world. At every step except the first, and in some cases the last, we find that the passage, or communication or redistribution of force is the conspicuous, important and permanent part of the process; while the rearrangement of matter is trifling, or imperceptible, or temporary.

All the bodily organs and all the bodily functions may be divided into two great groups, according as they subserve the rearrangement of matter or the redistribution of force. The latter is, from a physical point of view, the prime function of the nervous system, of which the muscles, bones, etc., may be regarded as appendages.

Redistribution of force means, as we have just seen, the communication of force from one place to another. Matter is communicated from one part of the body to another in the blood-vessels, in which it is continually circulating. Force is communicated from one part of the body to another, in which it is also continually circulating. Little waves of force pass along the nerve-fibres, at a rate of about 90 feet per second. The matter of the nerve does not appreciably change its place, the force alone travels, just as a wave passes through a fluid in the way familiar to every student of physics. But redistribution of force means something more than communication of force from place to place, and something more than this is included in the physical functions of the nervous system. Were communication of force the sole function carried on by the nervous system, we could never have a muscular contraction except upon the application of a proportionate

stimulus to the surface of the body. The muscles are not always in full action. They contract when a shock is delivered into them by a nerve, and only then. It is obvious that we could not always depend on having an amount of force of precisely the requisite amount to cause a muscle to contract, applied to the body at precisely the the moment at which it would be convenient for us to have such a contraction. Yet without such a stimulus applied in the nick of time, no contraction could take place if the nervous system were solely an apparatus for the communication of force. In order that muscles should be made to contract at the right time, there must be a store of force accumulated somewhere in the body and capable of escaping from time in such quantity as to set up contractions in the muscles, without immediate and direct provocation from outside the body. To form such a store is the function of the grey matter. The function of the nerves is to form channels of communication along which force may be transmitted from one part of the body to another. The function of the grey matter is to act as a receptacle or reservoir for the storage of force, and to liberate this force at appropriate intervals, in appropriate quantities, and in appropriate directions.

The conception of the storage force is familiar to everyone in the leading case of coal. Everyone knows that this homely substance derives all its value from the immense store of force which it contains, and the ease with which this force can be liberated when we want it: and it is not difficult to form a moderately clear concept of the means by which this force is held in thrall. The classical illustration is the raising of a stone. When a stone is raised a certain amount of force is used in raising it. If it is dropped, it strikes the ground with a force equal to that employed in raising it. If it is again lifted and placed on a shelf, the force employed in lifting it becomes latent and potential. It is not manifested in any way, but it is still in existence, for however long the stone may remain on the shelf, if it is at last pushed over the edge, it falls to the ground, and expends in so doing an amount of force equal to that employed in raising it years, or, it may be, centuries before. When the stone was placed on the shelf, the force employed in lifting it was rendered latent or placed in store; when the stone fell the force was liberated. Now, instead of the earth and the

stone—one vast mass and one small one—imagine two very small particles, one of carbon and one of oxygen, and for gravitation substitute chemical affinity. So long as the carbon atom and the oxygen atom are kept apart, there is force potential or latent stored up. When they clash together, this force is liberated.

The method in which force is stored up in the grey matter is not, we suppose, quite like the case of the stone on the shelf, nor that of the restrained chemical action. Instead of a stone lifted, imagine a brick set up on end. To do this requires the expenditure of force. Now if the ground is shaken, the brick falls, and liberates in falling a force equal to that expended in raising it. Again, imagine a brick set on end with another brick placed across the top of it. The upper brick can now be knocked off the lower, and the force which raised it be liberated, while the lower brick is left standing, with the force that raised it still in store. It is evident that a brick balanced on the top of another one will be displaced by a gentler shock than is required to knock down the single brick. A third brick may be placed on top of the second, and this may be displaced by a still gentler shake, and its fall will liberate a still smaller part of the force employed in putting the three together. Now suppose more and more bricks are added, until we have quite a complicated structure composed of loose bricks. It is easy to see how readily a top brick could be knocked off—how slight a force would be necessary to upset it, how readily the fall of one would conduce to the fall of more, and how little the fall of a few of the topmost bricks would modify the entire structure, especially if we suppose that they do not fall off the pile, but merely from their ends on to their sides. Now, if we imagine these bricks to be connected to the pile by elastic bases, so that when they have been knocked down they will slowly rise again, with perhaps a little help, to their erect position, we shall have a diagram which will represent very roughly what we suppose to be the mechanism of the nervous discharge.

We know that the grey matter of the nervous system has an extremely complex molecular condition. Each single molecule has been calculated to contain nearly one thousand atoms. These atoms are united together in twos and threes, in dozens and scores; several of these clusters are united

together to form a larger group, which is again combined with others in several links of cross relationship. The whole molecule is therefore a very complicated structure, and may contain many atoms and groups of atoms that stand in the relation of top bricks.

A structure so complicated is easily disarranged. When a disturbing force impinges against it, the weakest ties between the atoms and groups of atoms will give way, and some of the atoms will fall into new positions, just as the top bricks fall into new positions when the pile of bricks is shaken. Now mark, that in building up the atoms into the complex arrangement found in the molecule, force has been employed, has become latent, has been stored. And when the atoms are shaken into simpler positions, just so much force is liberated as would suffice to build them up from this new position back into the old one. This is what is meant when it is said that force is stored up in the grey matter of the nervous system and liberated at intervals. Such a statement means that the highly complex structure of the molecules of the grey matter is built up by the action of force on the atoms; that the force so employed lies latent in the structure; that the bonds of union between the component sub molecules are frail and easily broken; that the frailest portion of the structure may be shaken off by a very slight force, and that, when the parts are thus shaken down, the force employed in building them up is set free. It is set free in much the same way as the force stored up in a pile of bricks is set free, when the bricks fall down, and waves of sound and heat are straightway projected in all directions.

Such an alteration of the structure of a molecule as is above described, since it is an alteration from a more complex to a more simple structure, is of the nature of a decomposition, but since molecule contains just as many atoms after receiving the shock and undergoing the rearrangement as it did before, there is no decomposition in the chemical sense. When a molecule is decomposed in the chemical sense, the atoms of which it is made up are not merely rearranged in the molecule; they are torn completely asunder, and may be united with foreign atoms to form entirely different compounds. This is not the case in the process that has been described. What happens is a rearrangement of atoms within

the molecule without any disruption of, or of loss of atoms by, the molecule. The chemical composition of the grey matter and a mere lifting of the displaced atoms into their original places will completely restore the *status quo ante*. Thus it can be easily understood how the structure of the grey matter may be continually undergoing decomposition during its functional activity without being permanently or materially impaired. It will be convenient to use the term "decompounding" for this form of rearrangement, reserving the term "decomposition" for the major process which involves destruction. The process of decompounding, with the liberation of force which necessarily accompanies it, together make up the nervous discharge.

Several accompaniments and consequences of this process require notice.

If we suppose, as the extreme complexity of the molecule and what is known of its constitution entitle us to suppose, that all the atoms and groups of atoms that occupy the position of top bricks are not equally unstable, but are bound to the main body of the molecule with different degrees of firmness, then it will be evident that the number of atoms that are shaken out of their places on the impact of a shock will depend on the magnitude of the shock. A stronger shock will displace more atoms than a weaker shock; and since the greater the number of atoms displaced, the more force is liberated, it follows that other things being equal, *the greater the disturbing force the more powerful will be the resulting discharge*.

Next we have to notice, the force set free by the decompounding of a molecule itself acts as a disturbing agent on the molecule. A very feeble impact may be able to displace only the most loosely attached atoms. But these atoms in their fall liberate force, and the force thus liberated may be enough to displace the atoms of the next degree of instability. The fall of those atoms may still further spread the process. Just as the fall of one brick on the top of a pile tends to knock down other bricks; just as the explosion of one barrel of gunpowder in a magazine tends to explode other barrels; so the fall of one atom of a molecule tends to knock other atoms out of their places. Hence *a discharge once begun tends to get stronger*. Again, the force set free by the decompounding of a molecule is not confined within the molecule, but diffuses

around, much as the waves of sound and heat initiated by the fall of a pile of bricks spread around in all directions. Every molecule of grey matter is surrounded by other molecules. Hence the force set free from one molecule must impinge on others. And when a force impinges upon the molecules of grey matter, it will, if strong enough, shake their atoms out of place. Hence the discharge of a molecule tends to cause the discharge of other molecules. In other words, *a discharge once begun tends to spread*.

If a number of molecules are aggregated together, and some of them are made to discharge, a certain amount of force is liberated — the discharge attains a certain strength. From the two preceding paragraphs it appears that an increase of strength may accrue to this discharge in two ways. It may spread to more molecules, and be augmented by the force liberated from them, or it may spread deeper into each molecule and be augmented by the fall of additional atoms in each discharging molecule without any increase in the number of molecules discharging. The former is an extension of the discharge, an increase in the area that discharges with a given intensity; the latter is an increase in the intensity of the discharge that issues from a given area. Hence we recognize that *a discharge may be augmented either by extending in area or by an increase of intensity*.

The force set free by the decompounding of a single molecule is of course inappreciably small; but the molecules are indefinitely numerous, and the accumulation of an indefinitely large number of inappreciably small forces of similar character results in a force of appreciable magnitude. We have seen how the force stored up in the grey matter is liberated; we have now to ask how it is replaced. By what process, under the operation of what causes, do the displaced atoms return into their less stable position on the molecule? The only answer that we can give to these answers at present is, that we do not know. We know that as a matter of fact the atoms are replaced, or that others are substituted for them, for the nerve-centres continue to discharge, and yet do not become decomposed. It is obvious that if the discharge continued without restoration of the fallen atoms, the process could not go on long; for each successive decompounding would reduce the atoms to simpler and simpler combinations,

until at length the molecule would be reduced from a complex cluster of many groups of atoms and clusters of groups, to a disorderly heap of single particles. Long before this stage was reached, however, the molecule would split up into smaller molecules, and entirely new combinations would be formed. The grey matter would be chemically decomposed. We know as a matter of fact that no discharge is continuous. Every liberation of force is followed by an interval, and a prolonged discharge is made up of numerous separate waves of discharge separated by intervals of inactivity. It is fair to suppose that during these intervals the fallen atoms are being replaced into a position of greater instability, from which they are again displaced when the discharge is renewed. This replacement of the fallen atoms requires time; it requires more time than is required for their displacement. Hence when discharge follows discharge rapidly and for a length of time, the process of displacement outstrips the process of restoration. The restoration of the fallen atoms being incomplete, the impinging force finds opposed to it a less number of top-bricks—of unstably placed atoms—in the molecule; and the topmost or most unstably placed atoms being those whose restoration is the first to fail, the unstable atoms that are now exposed to the impinging force are less unstable than those which were at first exposed; they require a stronger impact to displace them. As the process continues, these atoms also fail to be replaced, and thus, as discharge is repeated, successive layers of atoms in the molecule are laid bare, each stratum being more stable than that which overlay it. At length a stage is reached at which the stability is too great to be overcome by the impact which is applied, and the discharge ceases. In this process we see the explanation of the occurrence of exhaustion and of the restorative potency of rest. After a long interval of rest so high a degree of instability is gained, that the impact of an infinitesimal force is enough to initiate a discharge, which then appears to be spontaneous, and which, once begun, is a cause of its own continuance. After a considerable discharge the degree of stability becomes such that stronger and stronger stimuli have to be applied in order to maintain the discharge. The stimulus of the voice, for instance, is replaced by that of the whip, and the whip is supplemented by the spur. On this hy-

pothesis we see, too, why a short period of very vigorous exertion is more exhausting than much greater exertion spread over a longer proportionate time. In the latter case the intervals are occupied with the process of rebuilding, and their aggregate is sufficiently large to allow of a higher standard of structure being maintained than in the former.

By what agency this rebuilding of the molecule takes place we do not at present completely understand, but we know that similar processes are continually going on in the bodies of organisms. The development of the body out of scattered material by the accretion of molecule to molecule and cell to cell, is a process of precisely the same character, and one of whose immediate causes we can give no account. The whole function of nutrition, of which the restoration to integrity of discharged nerve-centres is but a single instance, is a process of the same nature. All activity of function is attended by oxydation—by the degradation, that is to say, of some portion of the active tissue into a simpler molecular structure, and all growth, development and nutrition is the integration or reintegration of a simpler into a more complex molecular structure. Since the recompounding of the grey matter after discharge is a portion of the general process of nutrition, it will as a rule vary as the general nutrition varies. Hence we find that those people who most readily recoup themselves after exertion—those who require least rest and least sleep—have the reputation of being the longest lived. Hence we find also that such people are the least obnoxious to adverse influences—to extremes of heat and cold, to the influence of alcohol and other drugs—and most readily overcome the effects not only of fatigue, but of various excesses.

The longer the molecules are left undisturbed the longer does the building-up process continue, and the more and more unstable is the position in which their peripheral atoms become arranged. When a considerable time has elapsed since a molecule was discharged, the position of the atoms becomes so extremely unstable, that the impact of an infinitesimal force will be enough to upset them. It will further follow, that when atoms are in this extremely unstable condition, not only will they be upset by an extremely minute force, but that, once disturbed, the number of atoms that undergo rearrangement will be relatively great.

Where a large number of atoms are in extremely unstable positions, a force which is sufficient to dislodge only the most unstable of all will, when it is reinforced by that liberated in the fall of these atoms, produce a widespread collapse; just as a house of cards falls into complete ruin when a single card is displaced. And the more atoms that are displaced, the more force is liberated, the more intense the discharge. Hence the longer a molecule has been left undisturbed, the more prone it is to discharge, and the more force does it liberate when the discharge occurs. In this elementary fact we see the explanation of the recuperation that takes place after rest, of the ease with which exertion of all kinds is undertaken in the morning, of the many phenomena of fatigue, exhaustion, etc. Here also is the explanation of the so-called spontaneous discharge, an occurrence which is never actually spontaneous, but which occurs when the molecules are fully charged, on the provocation of a force so small as to be insignificant. On the other hand, when the molecules have been frequently discharged and have had but few and short intervals for recuperation, the more unstable atoms will all be displaced; and as more and more stable strata are laid bare, greater and greater amounts of force are necessary to displace them; and when an atom is displaced, the connections of surrounding atoms will be so firm, that the displacement is limited to a small area, and the impact of even a considerable force will evoke but a very small discharge.

The function of the nervous system is, as we have seen, not only to store up and expend force, but to carry it from one part of the body to another—to deliver it from the store to whatever place it may happen to be wanted in. It remains to show how this transference is effected. It is scarcely necessary to say that the liberated force exercises no choice as to the direction it shall take. It spreads from the point of liberation equally in all directions—provided all directions are equally permeable. But all directions never are equally permeable. Not only are the surrounding molecules, in so far as they are of the same nature, differently situated, some being older, some more recently discharged, some better situated for recuperation, than others, but every molecule possesses polarity such that it is more sensitive to shocks arriving in the direction of one of its axes, than to shocks arriving in

any other direction, and delivers its discharge with greater intensity along this axis than in any other direction. Hence a discharge will spread more readily where the molecules have their poles parallel than where they are higgledy-piggledy.

The more unstable the molecule, the more completely it is discharged by an impinging force, and the more force it liberates in its discharge. Again, the stronger force is the more efficient disturber, and hence for two reasons the discharge will spread most along the direction in which the molecules are most unstable. Now suppose that the unstable molecules are packed inside a tube whose walls are constructed of molecules so stable that they will not discharge at all, and suppose that they are packed with their polar axes parallel. Manifestly a discharge initiated at any point in the tube will travel with great facility along the length of the tube.

Such is the structure of a nerve-fibre. It is composed of an axis-cylinder of grey matter, enclosed in a tube of substance that will not discharge. We have seen that each molecule that discharges adds something to the force of the total discharge, and hence, if the supposed view is correct, the nerve current ought to be stronger the longer the tract of fibre that it has traversed; and it is a well-established fact in physiology that "if the irritant remains the same, the longer the portion of nerve irritant remains the same, the longer the portion of nerve irritated, the stronger is its action on the muscle."

Having such a construction as described, when a medullated nerve-fibre transmits a wave of force, this wave is entirely confined to the axis-cylinder in which it runs from end to end. The stably arranged sheath prevents all diffusion of the discharge. But all nerve-fibres do not possess a medullary sheath. Very many fibres are naked throughout their length, and all are destitute of sheath at their ends. From this we may infer that some nerves allow, under some circumstances, a certain lateral diffusion of the currents passing along them, and that this diffusion may occur at the ends of all nerves. We need not suppose, that where there is no sheath there is no restriction of this lateral diffusion, nor that where a nerve-fibre loses its sheath the currents spread from it uniformly in all directions; but we may be certain, from the existence of the sheath, that its absence allows to the

currents some lateral diffusion. If not, there is no need for a sheath. When we look at a section of grey matter under the microscope, we see a number of fibres traversing in various directions an intervening substance. The fibres are not divided from the inter-fibrous substance by any sheaths or membranes. No conspicuous difference can be found between their substance and the substance in which they are imbedded. As a rule, the tissue must be considerably altered by immersion in different fluids, or by staining, or both, before any difference at all is discernable; and when the fibres are in this way made conspicuous, very many of them taper off to an extreme tenuity and become at length indistinguishable from the ground-substance. By more elaborate preparations, and by better methods of staining, the fibres may be tracked farther and farther; they may be traced into prolongations of greater and greater tenuity; but the more perfect our methods, and the more laborious our observations, the more certain it becomes, that the great majority of nerve-fibres taper off into fine points which lie imbedded in the ground-substance. From these observations three inferences may justifiably be drawn. From the different action of reagents upon the fibres and on the matrix, we may infer that the molecular constitution of the fibres is different from that of the matrix. From the precautions and preparations necessary to display this difference, we may infer that it is not very great. And from the increasing difficulty in tracing the fibres as they extend further from their main trunk, we may infer, that the difference between the molecular constitution of the fibres and that of the matrix diminishes as the former approach their free terminations. Viewing them with regard to their molecular stability, it can scarcely be doubted that the molecules of the fibres are more unstable than those of the matrix; but considering the similarity of the two substances, the difference of stability is probably not great, and becomes less as we approach the termination of the fibre. If we accept this view, in favour of which there are several arguments that cannot be reproduced here, we are committed to certain other views regarding the transmission of waves of force, or discharges along these fibres. Suppose a molecule in one of these fibres to discharge. Force is liberated, and, if the molecules of

the fibre are supposed to be symmetrical and similar, spreads in all directions both along and across the fibre. When the discharge has spread through the whole thickness of the fibre, so that all the molecules in a transverse action are discharging, it impinges against the molecules of the surrounding matrix, which, by hypothesis, are not so easily discharged as the molecules of the fibre itself. It is obvious that the next event will depend entirely on the strength of the discharge. If the impact of the force is strong enough to knock down, not only the loose atoms that compose the molecules of the fibre, but also the somewhat more firmly compacted atoms that compose the molecules of the matrix, then the molecules of the latter that abut upon the fibre will be discharged. Discharging, they will liberate force, and will pass on the movement in increased intensity to the molecules lying further from the fibre. Hence, powerful discharges will not only traverse the fibre, but spread into the matrix also. If, however, the discharge passing along the fibre has not sufficient force to upset the more stable molecules of the matrix, it will remain limited to the fibre, and will pass along its length without becoming laterally diffused. To suppose that the waves of discharge in the nerve-centres are entirely limited to the fibres, is a mistake, and a very vital mistake. Whether they remain confined to the fibres, or whether they overflow and permeate the imbedding substance, depends, other things being equal, on the strength of the discharge; and the possibility of their escape from the limits of the fibre into and through the surrounding substance is one of the most important properties of nervous tissue, and the foundation of one of the most valuable of all faculties—the faculty of progress.

Not only may a current, if sufficiently powerful, escape from the fibre and spread through the ground-substance, but there are circumstances in which a current in a fibre, however feeble, *must* become diffused into the surrounding matrix. Suppose the case of a fibre which tapers off and ends, after a longer or shorter course, as an attenuated point. What becomes of a current of force when it reaches this termination? Again, we must consider the process as an affair of decomposing molecules. If we take a number of cross-sections of the tapering nerve, the area of

each section becomes less and less as we approach the point. The structure of the fibre, being supposed uniform, it follows that the number of molecules exposed in each cross-section becomes less and less in each successive section. In other words, as the wave travels along the fibre, the discharge of a number of molecules is passed on to a less number. The force impinging on the less number is not less than the force impinging on the greater number. On the contrary, it is greater, for it is reinforced by the discharge of the latter. But the same amount of force when applied to a less number of molecules will produce a greater effect upon each than when applied to a greater number,—it will discharge the less number more completely. In other words, as the discharge approaches the termination of the fibre, it increases in intensity. When the discharge reaches the extreme point of the attenuated fibre it will have a considerably greater intensity than it had where the fibre was considerably thicker; that is to say, its impact against the molecules that lie round the point of the nerve will be more powerful than its impact against the molecules that bound the fibre laterally; and hence a discharge which is not powerful enough to escape laterally from the fibre, may yet have sufficient impetus to escape at its termination. When we remember that the molecules of the matrix, although more stable than those of the fibre, are not much more stable, it will be evident that when currents of various intensity are very frequently passing along the fibres, there must occasionally occur some that are not powerful enough to discharge those molecules of the matrix that surround the course of the fibre, but yet gather intensity enough to discharge those that surround its termination.

So far, we have discussed the nervous discharge without once mentioning the nerve-cells, an omission that may well arouse astonishment, but one that has been made designedly. It is customary to regard the nerve-cells as unique bodies possessing wonderful and even miraculous powers. They are able, it is said, not only to transfer force from one fibre to another, but to transmute a wave of force into a conscious sensation, and an idea into a movement; they are able to suppress movements; not only force but memories are stored away in them; they are the active portion of the nervous system, the remain-

der being either mere packing or merely subsidiary and supplementary material. Most of these views are certainly erroneous, and all require modification. The nerve-cells cannot transmute a movement into a feeling or an idea into a movement. They cannot contain memories. They are not the only active portions of the grey matter. That they are active constituents of the grey matter admits of no doubt; but they are far from being the only or even the most important of such constituents.

The nerve-cells are continuous with the fibres. It is common to speak of a fibre as entering a cell; but the connection between them will be more correctly conceived if the cell is regarded as a bulging of the fibre, and the fibre as a prolongation of the cell. There are, it is true, cells which appear to be isolated, and which have no discernible connection with any fibre; and it is extremely significant that these cells have no cell-wall, and are less distinguishable from the matrix in which they are imbedded than any other form of cell; but the great majority of cells are continuous, with the substance of one or more fibres. Between the molecular structure of the cells and the molecular structure of the fibre there appears to be some difference, but assuredly the difference is not great. There is no line of division between them. The one merges by insensible degrees into the other. Their optical appearances and their response to reagents are almost identical, and whatever differences can be found to exist between them are largely explicable by the greater bulk and different form of the cell—by the different mode of aggregation of the molecules. Supposing, for the sake of argument, that the cells are composed of molecules precisely similar to those of the fibres, still the function of the cells, or the manner in which their molecules as a whole behave under the impact of a force, will be different from that of the fibre molecules. Let us see what this difference will be.

The main difference in aggregation between the cell and the fibre, is that within any given distance, greater than the diameter of the fibre and less than that of the cell, there is a much greater number of molecules in the cell than in the fibre. Supposing a cell to have a diameter only ten times as great as that of a fibre, which is a moderate average, and to be of similar uniform molecular constitution, then, if

discharges of equal intensity are started from the middle point in the long axis of each and spread to the circumference, the discharge in the cell will liberate 1000 times as much force as that in the fibre, and will occupy only 10 times as much time, so that in each unit of time the cell will liberate on the average 100 times as much force as the fibre. In other words, the discharge in the cell is of a more explosive character than that in the fibre, supposing both to be similarly constituted and to be similarly disturbed by equal forces. It is possible that the molecules of the cell are more unstably constituted than those of the fibre, but of this we have no evidence. But since most cells are a meeting-point for several fibres, it is obvious that while the impinging force which sets up a discharge at any point of a fibre can arrive in one of only two directions, that which discharges a cell may arrive from several directions, in some cells probably from any direction.

Since a large cell contains more molecules than a small one, it will, if similarly constituted, liberate more force in its discharge; and since the more explosive character of the discharge in the cell depends on the longer radius that can be drawn from the starting-point of the discharge to the periphery of the cell, it is obvious that a large cell will liberate force in a more explosive manner than a small one. Hence where an effect depends on both the amount and the suddenness of the discharge, the larger cell will have the advantage in both ways. It is significant that large nerve-cells are specially characteristic of motor regions.

Reference has been made to the fact, that some cells have no fibres in direct connection with them. Such cells—I speak only of those that are admitted to be nerve-cells—must have the same fundamental function as other nerve-cells—must accumulate force, and discharge it upon provocation. But since they have no fibres, the only possible way in which the jar necessary to upset the equilibrium of their molecules can reach them is through the matrix in which they are imbedded; and the only possible way in which the force liberated by the discharge of such cells can escape is through the matrix. Now we can see the significance of the fact already alluded to; that apolar cells are but indefinitely demarkated from the

matrix in which they lie. Were it otherwise, they could exercise no function, for any boundary between the discharging molecules of the matrix and the charged molecules of the cell would prevent the former from acting on the latter. The same barrier would imprison the discharge and prevent it spreading. As it is, such cells may be looked on as but slightly differentiated portions of the matrix. They are separated from it by no defined boundary, and can freely receive and impart impulses from and to it. The existence of such cells is an additional argument for the active function which is here claimed for the matrix of the grey matter.

[TO BE CONTINUED]

PLEURISY IN DISEASES OF THE HEART.—Pleurisy in heart-diseases most often affects the right side; the liquid is serous, rarely purulent, and its quantity is less than might be expected when compared with the dropsies occurring in other parts of the body. Taking cold is a common cause, the need of fresh air to facilitate their breathing, leading the sufferers to sit in draughts. Pulmonary hemorrhages and infarcts are a frequent cause, their site being superficial and accompanied by inflammatory phenomena. This observation is confirmed by the fact observed by the author, that pleurisy is more frequent in aortic than in mitral disease. Pulmonary apoplexy and the infarcts which are the common cause, are observed more especially in patients affected by atheromatous lesions of the aorta, and are accompanied by inflammatory symptoms, giving rise to retrosternal pain and pseudo-anginal symptoms. Pleurisies are not only met with in the cachectic period properly so-called of heart-disease, but in less advanced periods of the disease, and following the ordinary phenomena of asystolia. The pleurisies of heart-disease are latent and subacute in character, and may easily pass unnoticed if the patient be not carefully watched, and if the effusion be circumscribed and scanty. These pleurisies, however, add to the gravity of the prognosis; they increase the dyspnoea, oppression, and palpitation, and if there be asystolia the pleurisy may render it permanent, and precipitate the course of the disease. The effusions, however, are curable, and their deleterious influence renders their prompt removal desirable.

For this, the question of thoracentesis presents itself. When the pleurisy manifestly aggravates the cardiac affection, time must not be lost. The indication is formal if, with even inconsiderable effusion, there be intense dyspnoea and aggravation of the condition of the patient. It is not, however, necessary in all cases, and sometimes digitalis may render valuable service.—*London Medical Record.*

SURGERY.

COLOTOMY IN THE TREATMENT OF VESICO-INTESTINAL FISTULA.—In the *Revue de Chirurgie* Prof. Duménil of Rouen reports a case of vesico-intestinal fistula treated by colotomy, and gives the results of a study of this and previously reported instances, with a view of estimating the value of this operation when thus applied.

The patient in Professor Duménil's case was a woman aged 25, who for seven months before the date of operation had passed fecal matter chiefly by the bladder. There had been repeated attacks of abdominal pain, and much occasional disturbance in the functions of the large intestine from the time of her first confinement, seven years before the first appearance of fecal matter in the urine. Colotomy was performed, with a fairly successful result. The urine became almost normal in appearance and was no longer painful. As feces subsequently appeared from time to time in the urine, and as during each of these relapses the patient suffered much from fever, an attempt was made two months later, to close the opening of the lower part of the intestine. The operation was followed by local erysipelas and afterwards by abdominal pain, vomiting, and other symptoms of peritonitis, and the patient died on the seventh day.

This, the author thinks, is the first case in which a French surgeon has applied colotomy in the treatment of vesico-intestinal fistula.

Twelve other cases, collected from different sources, are analyzed in this paper. Usually the fistula allows a ready passage of fecal matter and urine from one organ to the other, but in the author's case, the opening, though sufficiently large to admit solid feces, did not permit any flow of urine into the intestinal canal. This is explained by the supposition that there was a valvular formation at the vesical orifice.

Vesico-intestinal fistula in most cases causes death through exhaustion or extension of the disease to the whole urinary apparatus. Cases are very rare in which the subject of such lesion has survived for any length of time. The gravity of the abnormal condition and the rapidity of its evolution will depend on the width and situation of the fistula, and the facility afforded to the passage of urine and fecal matter. The existence of a fistula of this kind is incompatible not only with a long life, but also with any tolerable life.

Several cases have been recorded of the spontaneous cure of a vesico-vaginal fistula. In most of the instances the symptoms indicated a small opening.

It is important before deciding on colotomy to determine the seat of the intestinal orifice. In a large majority of cases it has been found in the rectum or the sigmoid flexure. The diagnosis will generally be facilitated by the history as to the origin of the disease affection, by the appearance of the fecal matter contained in the urine and by exploration of the organs. When the opening is situated low down, an examination may lead to the discovery of its seat. The injection of colored fluid into the bladder may, it is suggested, be of service in this respect.

It is thought that in doubtful cases the proof of a communication between the bladder and the lower part of the intestine may be obtained by injecting a weak solution of yellow prussiate of potash into the rectum and one of perchloride of iron into the vesical cavity. If there be a fistula between these organs, the characteristic reaction of these agents may be observed.

In seven of the thirteen cases colotomy was successful. There is often a tendency, however, even in the most satisfactory cases, to an occasional discharge of fecal matter into the bladder.

With regard to any attempt to close the orifice of the peripheral portion of the intestine, the author holds that such a proceeding is likely to compromise the result of the colotomy.

In conclusion, Professor Duménil states that though colotomy, applied to the treatment of vesico-intestinal fistula, has hitherto afforded only the results of a palliative treatment, it constitutes a precious resource, which is capable of prolonging to a considerable extent the existence of patients with a very tolerable infirmity. It is still

to be anticipated that the operation either by itself or associated with other means, may, in favorable cases, bring about a radical cure.—*London Med. Record.*

PURULENT PERITONEAL EXUDATION SIMULATING ASCITES CURED BY PARACENTESIS.—In a case presenting the symptoms of free ascites, Pernice performed paracentesis and found that the liquid extracted (18 litres) was purulent. The interest of the case consists in the enormous quantity of purulent exudation, the general state being good, with absence of fever and successful termination. The paracentesis was repeated at intervals of about two months, less pus being withdrawn at each time. After the third operation, the patient resumed his usual occupations. Two years and a half afterwards, there was found a purulent collection, sacculated in the lower belly, which was successfully operated on.

The author insists on the rarity of chronic purulent peritonitis, which is almost always secondary to neoplasie, and has generally but scanty and sacculated exudation. He explains the absence of fever in this case by supposing that the thickened serous membrane, covered with false membranes, perhaps stratified, lent itself little or not at all to absorption. After the paracentesis, palpation of the belly gave a feeling of diffused resistance, which he ascribes to the pseudo-membranes. The rapid reproduction of the purulent exudation would tell against the theory of Cohnheim on the emigration of leucocytes as the cause of the formation of pus; more probable, according to the author, is the conception that from some reason, as yet unknown, rapid division of the migrated cells takes place. • As to the mode in which cure was effected, he believes that, after the third paracentesis, the tonicity of the vessels of the serous membrane and of the organized pseudo-membranes was recovered, the exudation in part reabsorbed, in part transformed; that it underwent fatty degeneration and was deposited in caseified masses in the depth of the pelvis.—*London Medical Record.*

TREATMENT OF CANCER OF THE RECTUM. In a clinical lecture at the Necker Hospital, Prof. Trélat (*Revue de Thérap.*) drew the following conclusions with regard to the treatment of cancer of the rectum :

1. Cancers of the rectum should not be touched, unless they cause grave disorders. This rule should be positive, with the single exception that very small cancerous deposits may be removed from the lower part of the rectum and the margin of the anus.

2. In all other cases the treatment should be confined to complications and palliative operations. In giving these rules I am in accord with Prof. Verneuil.

3. As palliative operations, rectotomy may be done when the finger can be passed beyond the upper limit of the neoplasm. If the neoplasm is more extensive, the surgeon should abandon rectotomy, and work out a way of derivation; for by performing rectotomy in these cases, the surgeon is almost certain to injure the peritoneum.

With the English surgeons, and Labbé and Tillaux, I am in favor of lumbar colotomy, because it is a simple operation, less dangerous, and affords a ready means of exit for the feces. Other surgeons prefer to make an inguinal anus; but there is risk of opening the small intestine, with all the attendant dangers and inconveniences.—*Practitioner.*

AFFECTIONS OF THE GUM IN RELATION TO OTHER DISEASES.—Dr. Kaczorowski (*Przegląd Lekarski*, Nos. 28 and 29, 1884, and *Vratch*, No. 32, 1884) draws attention to a connection existing between gingival affections and certain other diseases. In four of his cases, chronic gingivitis caused the occurrence of hallucinations, melancholia, nervous excitement, and insanity. Extraction of destroyed teeth and appropriate treatment of the inflamed foul gums were followed, in each of the cases, by restoration of health of the nervous system. Further, the author saw several instances where affection of the gum led to general septicæmia. He thinks generally that premature senile debility of the organism may often depend upon dental caries, leading to absorption into the system of septic products of slow decomposition.—*London Medical Record.*

To cure an abscess without a cicatrix, Dr. Quinlan uses a silver wire passed through the abscess, before it has reached the skin, and retained there. It acts as a drain, he says, and has never failed in his hands.—*Med. and Surg. Reporter.*

Original Articles.

SOME REMARKS ON APOPLECTIC ATTACKS.

Read before the Academy of Medicine,
Nov. 10th, 1884.

By PHILIP ZENNER, M.D., Cincinnati.

This paper will deal with a few points in relation to apoplectic attacks. Its special object will be to explain the occurrence of apoplectic symptoms, an explanation which will enable us to understand their subsequent changes.

By apoplectic attack is understood a sudden complete or partial loss of consciousness, which is usually attended by paralytic manifestations. Sudden paralyses, without affection of consciousness, belong to the same category of symptoms, and are included here.

The causes of apoplectic attacks may, practically, be reduced to two, the rupture and the occlusion of blood vessels, or cerebral hemorrhage, and cerebral embolism or thrombosis.

We now know, thanks to the researches of Charcot and Bouchard, that cerebral hemorrhage is usually due to the presence of miliary aneurisms. There may be very few, or a large number, even hundreds of them, may be found in an individual case. They occur most frequently in the arteries supplying the corpora striata, and optic thalami, the localities where hemorrhage is most common. It was at one time thought that they were due to atheromatous changes in the arteries. But they are in reality due to a periarteritis (atheromatous changes are due to endarteritis). Atheromatous disease of the vessels is probably a factor in the production of hemorrhage only in a secondary manner, as is also true of cardiac hypertrophy, that is by increasing the blood pressure in the arteries, and thereby increasing the danger of rupture of aneurisms.

Cerebral embolism is usually due to valvular disease of the heart, and atheroma of the aorta, or large vessels at base of brain. Thrombosis is caused by atheroma of the cerebral vessels, or, less frequently, by the arteritis obliterans of syphilis. Embolism occurs most frequently in the left sylvian artery. Thrombosis, as it may occur in any diseased vessels, is found in various parts of the brain.

Embolism may occur at any age.

Thrombosis, excepting when due to syphilitic changes, occurs chiefly in advanced life. The same is true of cerebral hemorrhage; for atheromatous disease of vessels as well as aneurisms, is seldom found before forty years of age, and from that time occurs with increasing frequency with advancing age. Thrombosis doubtless occurs much more frequently than hemorrhage, for atheroma in the vessels is much more common than miliary aneurisms.

The symptoms produced by hemorrhage, embolism and thrombosis are so nearly alike that it is only by the consideration of other conditions, causes, etc., that an exact diagnosis can occasionally be made during life. Apoplectic attacks, when well marked, are so similar in their manifestations that it has been supposed that the lesion occurs almost always in the same part of the brain. But, in such cases, lesions in different parts of the brain will produce the same symptoms, for there is in their production a factor more important than locality, which we will learn in studying the immediate causes of the apoplectic attacks. I invite your special attention to this part of our subject, for its thorough comprehension will enable us to understand not only the immediate symptoms, but also, their subsequent changes. We are indebted to Wernicke for the clearest, and, probably, correct explanation of these symptoms.

The brain substance is soft and normally under a very slight pressure, that equal to a column of water 10 milimetres in height. The blood pressure in the arteries of the brain, though differing, according to size and locality of vessel, may be said to equal that of a column of mercury 150 milimetres in height. When a vessel ruptures, this entire pressure may be suddenly brought to bear on the brain substance. On account of the yielding character of the latter, the effects of this sudden increase of pressure—of this blow, as it were—are conveyed to various parts of the brain, and thus deprive them of their functions.

In case of sudden occlusion of a large vessel, a similiar effect is produced; but here it is due to a sudden negative pressure, instead of the sudden increase of pressure which occurs with hemorrhage.

The intensity of symptoms is dependent on the force of the blow, the latter depending on the size and rapidity of the

hemorrhage, or the size of the occluded vessel.

Usually there is loss of consciousness; but, if the case does not terminate fatally, consciousness is restored, for there was only a transient injury of the larger part of the brain.

The result is different in cases of slowly developing coma. In such instances there is a slow hemorrhage, which does not set in with sufficient force to produce immediate symptoms in the manner above described, and only produces coma when the whole brain is compressed by a large effusion of blood. It is for this reason that slowly developing coma is so indicative of a fatal termination.

What has been said of the affection of consciousness is also true of other symptoms of apoplectic attacks. The same blow which temporarily annuls the functions of the cortex and produces loss of consciousness, deprives other parts of the brain of their functions. Thus one hemisphere will usually cease to function, temporarily, and we will find hemiplegia, hemianæsthesia, and hemiopia. If the blow be more severe, the other hemisphere may also be affected. In such instances, a hemorrhage in the right hemisphere may be followed by aphasia, the seat of speech being in the left hemisphere.

In still more severe attacks, symptoms of involvement of the basilar, the more protected parts of the brain, may be produced, such as alterations of bodily temperature, changes in urine, the presence of albumen, sugar, etc. Such symptoms, inasmuch as they indicate the severity of the attack, are of grave augury.

These symptoms, so far as they are indirect ones, are not permanent. The parts of the brain not directly involved in the lesion regain their functions. The symptoms disappear at variable periods of time. Those caused by quite distant effects of the lesion, as aphasia, with lesions of the right hemisphere, usually disappear in a few hours or days. Those produced by lesions near their own centres, as hemiplegia when the lesion is near the motor area, may last for weeks.

There are many instances in which sudden paralysis occurs without other apoplectic symptoms. This occurs in cases of hemorrhage where the bleeding is slow and not large, and therefore there is no sudden blow with its distant effects.

Thrombosis also usually manifests itself in this manner, for the supply of blood to the affected area is, as a rule, cut off gradually, not suddenly. Such are the cases where patients awake in the morning, after, apparently, a sound sleep, and find one side of the body paralyzed. Also in cases of embolism where the occluded vessel is small, not larger than that supplying Broca's convolution, sudden paralysis occurs without impairment of consciousness.

It is to be specially noted of such symptoms coming on without a decided apoplectic attack, that they are usually permanent. For, as the lesion producing them did not set in with such violence as to inflict a blow on a large part of the brain, these symptoms are the expression of a direct injury, or destruction of certain parts of the brain.

Practically, then, we must make a broad distinction between symptoms coming on with a decided apoplectic attack, and such as come on without such attack. For the latter are likely to be direct symptoms, and, therefore, permanent; while the former are, in large part, indirect and transitory.

Nevertheless, the former class of symptoms, the direct ones, are not in all instances permanent; they often disappear in part or altogether. In case of hemorrhage, direct symptoms are partly caused by the pressure of the effused blood on neighboring tissues, and if the blood be absorbed, the symptoms produced by pressure will disappear, providing the tissues have not become secondarily affected.

In case of occlusion of a vessel, the direct symptoms are made to disappear in a different manner. Occasionally the obstructing clot is washed away, and the vessel again supplies its territory with nutrient fluid. In other instances the area whose vessel has been occluded, receives blood from anastomosing arteries. But this is only possible in certain parts of the brain. The arteries that enter the large ganglia at the base of the brain are terminal ones, and if one of them becomes permanently occluded, the territory supplied by it will lose its vitality, for it can receive blood from no other source. But if the affected vessel belongs to the cortical system, is in the pia mater covering the convexity of the brain, the result is different. It is still a question with anatomists how

freely the arteries of the pia anastomose with each other. One anatomist who has especially investigated this subject, Duret, states that they are almost terminal; another, Heubner, that there are free communications between them. Doubtless they do communicate with each other, but it is probable that the communication is not very free. So, when the lumen of one of these vessels is obliterated, its territory will probably be supplied from a neighboring source; though the supply may not be sufficient to entirely restore lost functions. In such instances, symptoms may partly, but not entirely, disappear.

It is thus that we can explain the disappearance of direct symptoms, when the functions of the parts are restored at an early period. But, occasionally symptoms improve or disappear after they have existed for a long period of time. In such instances we must suppose that there has been a partial restoration of the injured tissues, or that another part of the brain, most likely a symmetrical part in the opposite hemisphere, is performing vicarious functions.

Allow me to very briefly report a few cases in illustration of the foregoing remarks.

CASE 1.—Man, age 50. Three years ago had a severe apoplectic seizure, with profound unconsciousness, stertorous breathing, etc.; after return of consciousness had aphasia, which remained several days. He had also complete left hemiplegia and left hemianæsthesia. At present, there is only slight left hemiplegia, and well marked left hemianæsthesia.

In this instance, most of the primary symptoms were indirect, and disappeared. The remaining symptoms are the direct ones, and indicate that the lesion involves the sensory more than the motor tracts, probably was in the posterior part of the corpus striatum, or in the optic thalamus. The profound coma, and subsequent aphasia indicate that the attack was a severe one. The lesion was in the right hemisphere. The aphasia was an indirect symptom on the part of the left hemisphere (the man is right handed), and disappeared much earlier than the paralysis. For the indirect paralysis was from loss of function of a part quite near to the lesion, while the centre of speech was at a distance from the lesion.

CASE 2.—A young man, 25 years of age, was seized with right hemiplegia and slight impairment of speech, without loss of consciousness. The defect of speech soon disappeared, but there was subsequently little improvement in the paralysis. The non-impairment of consciousness indicates that the lesion did not set in with great intensity. The symptoms are therefore probably direct ones. This view is substantiated by their permanency. There was, probably, thrombosis of the sylvian artery, due to syphilitic disease of the vessel.

CASE 3.—Man, age 64, suddenly observed that he could not see objects on the left side of the field of vision. He had left hemiopia. There were no other symptoms, and no subsequent improvement of the hemiopia.

In this instance there was no great blow, as it were, to the brain at the onset of the lesion. The hemiopia was a direct symptom, and therefore permanent. There was, probably, thrombosis in the artery supplying the right occipital lobe.

CASE 4 is a patient whom I presented to the Academy Feb. 26th, 1883. The subject was suddenly seized with right hemiparesis and complete aphasia, without any impairment of consciousness. At the time he was presented to the Academy (two weeks after the attack) the paralysis had disappeared, and speech had very much improved. At the time, a diagnosis of occlusion of a branch of the sylvian artery was made, and a favorable prognosis, as to recovery of speech was given. At present he has no difficulty in finding or pronouncing words, but he reveals traces of the old defect by occasional difficulty in pronunciation.

It is probable that the first symptoms were mainly direct ones, caused by occlusion of a vessel, and that the restoration of function is due to the affected part of the brain receiving its blood supply from an anastomosing vessel.

CASE 5 was also previously reported to the Academy. In this case, after a right hemiplegia, and aphasia had existed thirteen years, the aphasia entirely disappeared, and the hemiplegia improved very much.

Here we must suppose that functions were vicariously performed by the other hemisphere.

I will not mention any more cases, as

the above are sufficient to illustrate the foregoing remarks. I wished especially to call your attention, in the first three, to a certain inverse relationship between the intensity of the apoplectic attack and the permanency of the attending symptoms. This is of importance, practically, for it indicates that after careful observations we may often make, at least proximately, a correct prognosis, even at an early period. It is true that we have not taken into consideration another important factor, that is the liability to recurrence of such attacks. Where a number of miliary aneurisms are present, one hemorrhage is likely to be followed by another, and when the internal coat of the arteries is roughened from disease, we do not know when another thrombosis may take place. Yet cases not infrequently occur where there is but one apoplectic attack, and if we can inform a patient that his present symptoms will improve or disappear, we may not only infuse new life and hope into a despondent spirit, but may be giving a prognosis which no future attack will nullify.—[For discussion see page 722 of this issue.]

FOREIGN BODY IN THE INTERIOR OF THE LEFT EYE.

THREE YEARS' DURATION, CAUSING SYMPATHETIC OPHTHALMIA OF ITS FELLOW. REMOVAL OF THE FOREIGN BODY; FULL RECOVERY OF THE RIGHT EYE. MARKED IMPROVEMENT IN THE LEFT EYE.

Read before the Philadelphia County Medical Society, September 17, 1884.

By M. LANDSBERG, M.D.

I have the honor to exhibit to you, Mr. President, to-night, one of the most interesting cases I have ever had the good luck to meet with in my practice.

This gentleman, 41 years of age, had the misfortune of being struck by a splinter of metal in the left eye, July 13, 1881, about six weeks after he had come to this country. Blindness set in within ten minutes after the accident. He applied on the same day to Wills' eye hospital, where he was advised to have the eye removed at once. Not quite relishing this prospect, he went to the Jefferson Medical College, where he was admitted for treatment after he had refused the enucleation, which was also at first proposed to him. There he remained for six weeks, during which time the incident inflammation passed off entire-

ly. The globe was preserved, but vision was not restored. He enjoyed good health until March, 1882, when the first symptoms of sympathetic disorders began to develop in the right eye. Asthenopic troubles made their appearance, followed by sensitiveness to light and photopsies. The acuteness of vision gradually diminished as well for distant as for near objects.

When I saw the patient for the first time, September 5, 1883, I ascertained the following condition:

No irritation whatever in either eye. Vision of the right eye was 10-20; with convex 40, 10-15. Pupil of normal shape, but of somewhat sluggish reaction; accommodation is impaired, in consequence of paresis of the accommodative muscle. With naked eye patient reads Jaeger 13 at about fifteen inches distance: with the help of convex 10, Jaeger 3 at eight inches. Field of vision and tension are normal. There exists an eccentric positive scotoma, outside of the point of fixation. The subjective complaints are of photopsies and scintillations. Ophthalmoscopic examination reveals no morbid changes.

Left eye counts fingers at two feet peripherically outwards. the cornea shows a linear horizontal cicatrix on its lower third, running from the outer corneal margin towards the pupillary region. The lower half of the iris is disorganized, and presents in its middle a funnel-shaped depression, and close to its temporal border a mound-like elevation. The pupillary margin of this segment of the iris is connected by three blackish filaments with the dense, opaque, whitish membrane, which stretches across the whole pupillary plane, filling up the latter to the greatest extent, even after the pupil has been dilated by a mydriatic.

The presence of the above-described "depression and elevation" in the lower half of the iris, which were situated just opposite the corneal scar, aroused my suspicion that the foreign body might possibly lay imbedded in this region. An operation for the removal of the foreign body seemed to me to be a matter worth trying at first, by which nothing was risked and everything might be gained. The enucleation of the eyeball I regarded as the last expedient, to which I would resort if I should be baffled in my intentions.

I spoke with the patient to this effect, telling him that I must have full liberty to act according to my best judgment, and to

be allowed to enucleate the eyeball if I should fail to extract the foreign body.

He took time for deliberation and reflection until May 19, 1884, when he returned in the following condition. In the meanwhile he had repeated and completed his circuit among the specialists.

Vision of the right eye 10-30; with convex 60, 10-20; complete paralysis of the muscle of accommodation. With the naked eye he reads Jaeger 16 at eighteen inches distance; with the help of convex 10, Jaeger 5, at ten inches. The shape of the pupil is normal, its reaction sluggish. The visual field is somewhat limited in the upper sector and its outer upper quadrant is occupied to the greater extent by the eccentric positive scotoma. Patient sees all objects as through a veil, and is greatly annoyed by photopsies and scintillations, and by the perception of a bluish flame, which constantly occupies the centre of the visual field. He complains besides of the most various abnormal sensations in and around the globe, of a feeling of pressure in the depth of the orbit against the eyeball, of pains in temples and forehead, of sensitiveness to light, etc.

The ophthalmoscopic examination reveals venous hyperæmia of the retina. Optic disk is pinkish red, of somewhat indistinct tints.

The condition of the left eye has not changed. I operated upon it in the following manner:

I made a section at the sclero-corneal border, just within the limits of the morbid changes in the iris, introduced Leibreich's iris-forceps, grasped the whole segment of the iris which contained the "*depression and elevation*," drew it out and cut it off. No foreign body was found in the excised piece of iris. Now I again introduced a pair of forceps, caught the membrane, which covered the whole pupillary region, and managed to remove it entirely. On inspection a small oblong piece of metal was found imbedded in the posterior surface of the lower end of the membrane. Considerable hemorrhage followed the operation, and a few drops of vitreous escaped from the wound.

A compressive bandage was applied on both eyes.

No reaction whatever followed the operation, and the healing process took place most favorably. The bandage was removed on the third day.

When I examined the patient on the eighth day, the condition was as follows:

Vision of the right eye is 12-15; with convex 72, 12-12; Jaeger 13 is read at fourteen inches distance, with the naked eye. Subjective complaints greatly abated. No photophobia and lachrymation. Scotoma somewhat more transparent.

The left eye shows a very fine artificial pupil. The hemorrhage in the anterior chamber is only partly absorbed. Vitreous contains blood and dense floating opacities.

This remarkable improvement in the condition of the right eye had taken place without any other influences having been brought to bear upon but the extraction of the foreign body. I abstained from all therapeutics during the eight days, and no more forcible proof of the sympathetic nature of the affection can be adduced than the spontaneous recovery after the cause of irritation had been removed.

An alterative and derivative treatment, which I now instituted, had the following effect:

Vision of the right eye is at present 12-8. The pupil is of normal reaction, the accommodative paralysis has greatly improved. His punctum proximum is at fifteen inches, and he reads, with the help of convex 10, the finest print (Jaeger 1) at six inches distance. The visual field is normal, and the scotoma has contracted to an oblong rod of about two inches in length and of one-eighth inch in diameter. This scotoma is transparent, and does not interfere with vision. All subjective complaints and perceptions have vanished, with the only exception of the bluish flame, which, however, but faintly and only occasionally appears in the visual field. Background of the eye is normal.

Vision of the left eye is 1-16, and may possibly improve still more in the future. There are still some large floating opacities and some bloody streaks in the vitreous. The background of the eye can only dimly be seen. There are morbid changes in the retina and choroid, due to inflammatory processes which had taken place in these parts.

You have, gentlemen, before you a case in which a foreign body had penetrated into the eyeball, causing traumatic cataract and consequent morbid changes in the uveal tract and retina. The lens is absorbed, and a thick, opaque membrane (secondary cataract) obstructs the whole pupillary region.

The foreign body remains imbedded in the posterior surface of the lower end of this membrane for nine months, without doing any harm. Then the right eye begins to show symptoms of sympathetic trouble. Amblyopia and paralysis of the muscle of accommodation developed. And while these morbid changes of the most serious character take place, no inflammation proper, no objective irritation, can be observed in either eye. The injurious influences, which have continued to work for two years, are checked at once by the removal of the foreign body. The secondary affected eye makes a marvelous recovery, which far surpassed all my hopes and expectations. Such a vision of 12-8 is only met with in very rare instances; and the primary injured eye which was not thought worth while being preserved, improves to such an extent as to enable the patient, should he have the misfortune to lose his right eye, to find his way in the streets, to recognize faces, to distinguish features, and eventually to gain a living by peddling, etc., if need should be. This case may justly be called a triumph of conservative surgery.

DR. E. O. SHAKESPEARE: This is a case of more than ordinary interest from many aspects, and Dr. Landesberg has rightly called it a triumph of conservative surgery. It is well known that a foreign body may remain in place many months or years before showing sympathetic irritation. The whole case, while an illustration of the benefits of conservative surgery, also shows the advisability of gaining the patient's consent to enucleation, if necessary, before the search has been begun. These cases may, however, cause, in the minds of the laity and members of the general profession, erroneous impressions of the absence of danger from foreign bodies in the eye.

DR. ROBERTS: We should give Dr. Landesberg great credit for his acumen in supposing that he could remove the foreign body. I always warn patients who come to me with lost vision from bodies in the posterior portion of the eyeball, of the danger of future sympathetic ophthalmitis, advise them to have enucleation performed, unless they live in portions of the country where skilled ophthalmologists are found. This case will incline me to make exploratory procedures before enucleation.

DR. W. S. STEWART: What was the nature and size of the body?

DR. LANDESBURG, in closing the discus-

sion said: I take exception to the practice of all those surgeons who resort, without further delay, to enucleation in instances of injury to the eyeball with loss of vision. In all cases in which there is no foreign body in the interior of the globe, we have to abstain from operative interference, and watch the eye with care. There is no danger in waiting. Sympathetic irritation is not likely to occur immediately after the injury. Enucleation itself is not so harmless as it is generally represented in text-books. It may sometimes give rise to sympathetic irritation, and I would impress this fact upon the general practitioner. It is not indifferent to the patient whether his blind eye is removed or not. A blind eye looks, in the greatest majority of cases, better than the artificial one, and we have to give to the patient the benefit, as long as it is compatible with the safety of the other eye. It is a matter of æsthetics. If a foreign body has penetrated the eyeball, the first indication is to remove it with an electro-magnet. If it cannot be found, and there is traumatic cataract, I would at once remove the latter—the body may be imbedded in it. Should this removal fail, I advise enucleation at the same sitting. The foreign body extracted in this case was about 3 mm. long, and of metal.

Society Reports.

CINCINNATI MEDICAL SOCIETY.

Meeting of November 18, 1884.

W. H. M'REYNOLDS, M. D., JOHN L. DAVIS, M. D.,
President. Secretary.

DR. JOSEPH EICHBERG read the following report of

Two Cases of Typhoid Fever, terminating fatally from perforation and peritonitis.

The annual autumnal prevalence of typhoid fever in this city was signalized by certain peculiarities well worthy of note, and all the more striking from the fact that comparatively rare symptoms seemed to be the rule rather than the exception. If more were known of individual cases, I am almost certain that it would appear that hemorrhage was one of the not infrequent symptoms; the hemorrhage taking the form of enterorrhagia rather than of the usual epistaxis; that cases which seemed to be of a rather mild type, and encouraging a favorable prognosis, would without any apparent

cause, take a sudden turn for the worse, and quickly lead to the death of the patient; and that many cases passed without any suspicion of the gravity of the patient's malady, until too late to institute proper treatment.

The following cases, which I detail by permission of Dr. MacKenzie, the attending physician, are of great interest because of the minimal amount of pathological change, and the severity of the alterations where they actually occurred. I was surprised on making the autopsy in each case to find the manifest lesions limited to a few ulcers, the remaining portion of the mucous membrane showing no alteration of its lymphatic structures, the mesenteric glands being also unaffected. The virus of the disease seemed to affect but few of the lymphatic structures, but these suffered all the more because of its greater concentration.

CASE I

M. H.—æ 23; Male; Tailor; Prussian; Married. Admitted to hospital July 13th, 1884, fairly well developed and nourished, family history negative. Patient gives history of a diarrhœa for the past six days, —vomiting and headache; no history of epistaxis; slight cough; has pain over abdomen, and gurgling in the right iliac fossa; has a few red spots, but not distinctly characteristic of typhoid eruption; spleen seemingly enlarged, general condition good. P. 127, T. 101.2°.

July 14th, A.M. Did not sleep very well last night; still has gurgling and slight tympanites; no stool since yesterday; tongue dry and coated; intelligence not affected. P. 72, T. 99°; ordered Quin. Sulph., gr. iij., and Spt. Minderer. 3ss three times a day.

P.M. Has headache; complains of pain over abdomen; had only one stool; tongue dry and coated; sordes on lips. P. 84, T. 103°; ordered Hope's mixture in addition to other medicine already prescribed.

July 15. Slept well; pulse markedly dicrotic—75 per. minute. Temp. 99.8°. Vomited during the night and had three stools.

P.M. Has a good deal of tenderness and tympanites over abdomen; some headache. Teeth covered with sordes; tongue coated with a white fur with red track in middle and at the tip. P. 84,—dicrotic; Temp. 102.5°. Feels nauseated.

July 16. Does not sleep at night: had one stool in night; new crop of spots appearing. P. 84, T. 100.8°; tongue dry and cracked.

P.M. Condition unchanged. P. 94, T. 102.4°.

July 17. Had six stools during the night; is in a partially typhoid condition this morning; crop of rose spots pretty abundant. P. 84, T. 99.2°.

P.M. P. 84, T. 102.2°. Had one stool; no headache.

July 18. Slept a short time; bowels loose. P. 74, T. 99.2°.

P.M. Has had four stools. P. 80, T. 103°.

July 19. P. 85, T. 99.4°. Sordes on lips and teeth. Crop of rose spots very abundant. Well marked gurgling in the right iliac fossa.

July 20. Had three stools this morning. P. 96, and weak. Temp. 102°. Looks badly this morning.

P.M. P. 88, T. 103.2°. General condition unchanged.

July 21. Tongue cracked; had 5 stools; tympanites; almost in the coma vigil state. P. 93, T. 102°.

P.M. P. 96, T. 103.2°.

July 22, A.M. P. 84, T. 101.2°.

P.M. P. 84, T. 100.2°.

July 23. Pulse 90 and feeble. T. 99.2°. Has subsultus tendinum, and is in a stupid condition. Ordered Whisky—3ss three times a day.

P.M. Has rales over the chest; no dulness; says he has caught cold. P. 88, T. 100°.

July 24. P. 92, T. 100.1°. Had two stools yesterday. Condition about the same. Tongue becoming more moist.

P.M. Pulse 90. Temp. 101.2°. Complain of pain in the defecation, has a large external pile; had three stools today.

July 25. Tongue gradually becoming moist all over; had three stools during the night. P. 78, T. 98.8°.

P.M. Is a good deal worse. Had two stools which contained a large quantity of blood. P. 96, T. 100.5°.

July 26. Had two more bloody stools during the night; one stool this morning is not bloody; pulse markedly dicrotic, 99, Temp. 99.8°. Tympanites. Ordered Morph. Sulph., gr. 1/6 every three hours.

P.M. Pulse 96. Temp. 101.2°.

July 27. Could not urinate; passed catheter; is in a bad condition; mouth full

of sordes, subsultus, vomiting; five stools during the night, but no blood. P. 90, Temp. 98.8°.

P.M. P. 93. Temp. 99.2°. Has passed his urine voluntarily.

July 28. Slept well. Tympanites and great tenderness over the abdomen; ineffectual straining to urinate. Pulse 120, very weak. Temp. 99.6°.

P.M. Has a peculiar look about the face; turning up of the upper lip. Tongue becoming more moist; abdomen very tympanitic and tender. P. 126, very weak. Temp. 98.4°. Still unable to micturate voluntarily.

July 29. In bad condition; has a peritonitic face; abdomen very much swollen and tympanitic; cannot micturate; bowels constipated. Ordered turpentine stupes to abdomen, followed by a poultice every three hours. Morphia gr. $\frac{1}{4}$ every three hours, and an enema containing turpentine night and morning. Pulse flickering 128. Temp. 99.2°.

P.M. P. 126, T. 97.8°. Passed his urine.

July 30. A. M. Pulse 130, T. 100°. Slept a little while during the night; still has a great deal of tenderness and tympanites over the abdomen; face greatly emaciated; extremities cold and clammy.

July 31. Tympanites over whole abdomen; liver dulness has disappeared; has the peculiar face. P. 146. Temp. 100°.

P.M. Slightly better. P. 124. Temp. 99°. Tongue dry and cracked. Body partially covered with ecchymotic patches. Dorsal decubitus with knees raised. Gave hypodermic injection of $\frac{1}{4}$ gr. Morphia to quiet his pain; ordered rectal suppositories of $\frac{1}{2}$ gr. every four hours; has had stercoraceous vomit. On giving enema it does not enter for any distance, but is immediately returned. Died during the night.

AUTOPSY.—Body that of a man about 30 years of age, well developed and poorly nourished; autopsy 12 hours after death. Rigor mortis fairly well marked.

Abdomen. Upon opening the abdomen a large quantity of gas, evidently intestinal by its odor, escaped from the peritoneal cavity. The parietal peritoneum, the omentum and the contained viscera were everywhere adherent by flakes of recent lymph, excepting in the left iliac fossa, where a sort of pocket existed, filled with about 3ij of fluid intestinal contents, which had escaped from a perforating ulcer of the

lower part of the ileum. Small intestine contained three typhoid ulcers limited to the lower portion of the ileum. The upper part of the ileum as well as the large intestine showed not the slightest infiltration of either Peyer's patches or the solitary follicles.

Spleen enlarged and tolerably firm.

Liver presented beginning cloudy swelling.

Kidneys normal.

Lungs showed posteriorly some sub-pleural ecchymotic spots. There was intense hypostatic congestion.

Heart, normal; the ventricles firmly contracted.

Brain normal.

Larynx normal.

Cause of Death. Secondary peritonitis from a perforating typhoid ulcer.

CASE II.

S. F.—æt 26; Domestic; German; Married. Admitted into hospital Sept. 1st, 1884.

Family history negative.

Comes into the house for fever, which she has had for the last three weeks; commenced with a chill; no diarrhoea, but constipation; no history of nose bleed; some headache. At present she is in a poor condition; sordes on the tongue and lips; is suffering from bronchitis; chest full of rales which communicate a thrill to the chest wall on inspiration. Has tenderness to pressure and gurgling in the right iliac fossa. One spot beneath the umbilicus, which does not disappear on pressure. Spleen, by percussion, is enlarged. P. 108, Temp. 98.8°.

Ord. Spts. Minderer 3ss.

Quin. Sulph. gr. iij. Three times a day.

P.M. Bowels very constipated. P. 108, Temp. 100.2°. Has considerable headache; ordered enema containing turpentine.

Sept. 2. A.M. Slept last night; bowels moved after enema. Tongue moist at edges but dry and cracked in the center; is stupid; perspiring. P. 106. Temp. 100.4°.

P.M. P. 132, T. 104.2°. Had one stool voluntarily today. Bronchitis gradually improving. Teeth covered with sordes. Ordered sponge bath and wet pack. Quin. Sulph. gr. v. Temp. came down to 100°.

Sept. 3. Had some sleep during night. P. 117, Temp. 101.3°.

P.M. P. 112, Temp. 103.7°. Gave wet pack.

Sept. 4. A.M. Slept well last night. One stool this morning; appetite poor. Pulse full, but not strong 112, Temp. 100.4°.

P.M. Had two chills followed by fever; had about the same time a profuse watery diarrhoea, which escaped involuntarily, also complained of pain in epigastrium. P. 132, very soft almost gaseous, T. 102°. Ordered sponge bath and larger doses of whisky.

Sept 5. Slept a short time last night; has very profuse diarrhoea, with involuntary dejections. The face is haggard and anxious. Passes urine properly. P. 132, T. 98.8°. Is tender over the entire abdomen and very tympanitic. Ordered turpentine stupes and morphia, gr. $\frac{1}{8}$ every three hours.

P.M. Has had three stools since 11 A.M. Seems partially comatose. P. 120, Temp. 102°.

Sept. 6. Slept well last night; one stool; has some pain on pressure over the abdomen. Tongue becoming moist and clear. Vomited three times during the night. Ordered carbolic acid, gr. j, after taking the milk, and milk to be diluted one-third with lime-water. P. 132, Temp. 99.8°.

P.M. Vomited twice. P. 144, Temp. 100.5°.

Sept. 7. A.M. Vomited four times during the night; slept well however; no stools. P. 132, T. 100°. Has tympanites and tenderness over the abdomen; gave morphia, gr. $\frac{1}{4}$ every three hours, and ordered enema of soap-suds and turpentine.

P.M. Pulse 120, Temp. 101.6°. Had two stools; no more vomiting.

Sept. 8. P. 138, Temp. 100°. Slept well last night; vomits whenever she takes milk. Has tympanites and tenderness over abdomen, particularly on the right side. Ordered dil. hydrocyan. acid. gtts. x. with each glass of milk.

P.M. Has vomited everything she takes. Has been slightly delirious. Temp. 103.5°, P. 132. No stool today. Considerable tympanites without tenderness.

Sept. 9. Died early this morning.

AUTOPSY.—Body that of a young woman apparently about 30 years of age, above average height, unusually well developed and nourished; rigor mortis moderately well marked; autopsy 12 hours after death.

Abdomen is moderately distended. Upon opening the cavity there is found a recent

peritonitis. The lower part of the cavity is divided from the upper by adhesions of the omentum, and coils of intestine, forming an almost perfect partition. In the lower cavity there is yellowish fecal matter and pus. In the upper part the viscera were slightly adherent to each other by recent coagulable lymph. Coils of intestine in the lower part were adherent to each other, whereas those above contained large quantities of fecal matter and gas.

Lungs were slightly adherent at a few points by old fibroid changes; presented hypostatic congestion and oedema of both lower lobes, otherwise normal.

Heart showed one or two fibroid patches in the pericardium and contained a small quantity of clotted blood. Muscle substance slightly fatty. Aorta had one or two ecchymotic patches beneath the intima.

Valves normal.

Spleen covered with recent lymph, and presented a few fibroid nodules on its surface; evidently enlarged malpighian bodies.

Stomach, normal.

Liver presented a light cloudy swelling.

Intestine. Small intestine near the cæcum had three ulcers, one giving rise to perforation of the intestine, a second running parallel to the long axis of the intestine and about $\frac{1}{2}$ in. in length; the third was circular running around the gut, about $1\frac{1}{4}$ in. in length, with irregular round margins, and a smooth floor formed by the external longitudinal muscular fibres. The large intestine was normal. Stomach and intestine were filled with an ochre, colored fluid characteristic of typhoid fever.

Mesenteric Glands enlarged.

Brain and Kidneys not examined.

Cause of Death. Peritonitis, secondary to perforation of a typhoid ulcer.

CONCLUSION.

In both cases fatal perforation occurred. In both the ulcers did not exceed three in number, and were found immediately above the iliocaecal valve, there being no characteristic typhoid or other lesion in any other part of the intestine; in the first case bloody stools, in the second profuse diarrhoea preceded the perforation. There was no rise of temperature following the development of peritonitis in either case; perforation was immediately attended by a fall of pulse and temperature to normal. The chief interest centered in the extremely localized character of the intestinal lesion.

After this report Dr. Eichberg presented to the society a specimen of right anterior cerebral artery obstructed by thrombus occurring in a man 55 years of age. The patient had complete left hemiplegia and unconsciousness.

Extensive softening of the right cerebral hemisphere existed, and there was atheromatous disease of all the arteries at the base of the brain.

The doctor also presented the specimen of a femoral artery severed through $\frac{3}{4}$ of its diameter by a pistol shot in the groin. When the patient was first seen there was no hæmorrhage, though the patient was greatly exsanguinated. A flap of fascia had closed the wound preventing the further escape of blood.

DISCUSSION.

Dr. STANTON remarked that he had seen a similar case in the army, the wounded man walked without aid from the field of battle and manifested no immediate signs of a serious injury. Shortly afterward he was found almost pulseless, and died. The femoral artery was found to have been wounded.

Dr. DANDRIDGE said that about a year ago he witnessed a similar case. A pistol shot in the groin had severed the femoral artery and vein. An immense amount of blood had been effused and extended through retroperitoneal connective tissue to the diaphragm. Complete loss of sensation and motion existed in the limb. The nerve was intact, and the paralysis must have been caused either by pressure from the blood clot, or from the exsanguinated condition of the limb.

Dr. EICHBERG could not state whether there had been any signs of paralysis in the case he had reported or not. The second bullet had fractured the angle of the jaw and entered the mouth. It was found in the stomach, and there was no contusion of the œsophagus, the bullet doubtless having been swallowed by the patient.

DRAUGHT OF AMYL NITRITE. — Dr. Richardson (*Asclepiad*) gives a formula for the administration of amyl nitrite by the mouth: Amyl nitrite, pure, \mathfrak{m} xxxv; ethylic alcohol (sp. gr. 830), \mathfrak{z} v; pure glycerine to \mathfrak{z} iss. To make a mixture of twelve doses. One fluid drachm to be taken in a wineglassful of warm water. In asthma this method is specially recommended. — *Practitioner*.

ACADEMY OF MEDICINE.

Meeting of November 10, 1884.

W. H. WENNING, M.D., L. H. TAYLOR, M.D.,
Pres't in the Chair. Secretary pro tem.

Dr. ZENNER read a paper on

Apoplectic Attacks,

(See page 713 this issue) after which ensued the following

DISCUSSION.

Dr. WHITTAKER remarked that this subject is always interesting and sometimes very obscure. Especially is the prognosis of apoplexy and the differential diagnosis between cerebral hemorrhage and embolism exceedingly difficult. As to the latter point, the age of the patient is the most important factor. Embolism occurs in the young, because in youth the source of embolism is most common. When the patient affected with rheumatism is under fifteen, cardiac complication with implication of the valves of the heart, is the rule. In age this accident is rare.

Miliary aneurisms, not atheromatous degenerations, are the direct causes of cerebral hemorrhages. Miliary aneurism is not always the result of a periarteritis beginning in the perivascular lymph spaces, often it is an endoarteritis which begins in the intima and extends thence into the muscularis and external coats.

We are indebted to the observations of Charcot and Bouchard for our knowledge of the fact that cerebral hemorrhages are caused by miliary aneurisms. They examined 78 cases and found this condition in every one. Their method was to wash away the clot by a very fine stream of water, thus dissecting it away gradually and finally revealing the affected vessel.

The hemorrhage may take place very slowly when the onset of the symptoms is neither sudden nor severe, or the rent may be a large one and a great mass of blood be poured out, completely ripping up the brain substance.

As to prognosticating the permanent or temporary character of the resulting paralysis, the most important point would be to determine whether or not the internal capsule is involved. But the clinician is unable to say whether this is the case or not. When the internal capsule is not involved the paralysis is temporary.

The first question which we have to answer is whether the attack will prove

fatal in a short time or not? This has been rendered possible by the very careful studies of Bourneville with the thermometer. Any one who has taken the trouble to place a thermometer under the arm, or better, in the rectum, of a patient suffering from a recent apoplexy, has noticed that the temperature always falls at first below normal, as far down sometimes as 95° or even 93° . The longer this sub-normal temperature lasts, the more doubtful is the prognosis. The prognosis is also doubtful if the reaction is too great and the mercury mounts far above normal.

The extent and permanency of the paralysis is to be most carefully observed. If it be confined to one of the extremities or to the head, we can locate it in the cortical substance of the brain. Left hemiplegia is known to be more dangerous than right.

The most favorable prognosis is to be made in syphilitic paralysis, because we can control all the manifestations of syphilis by the proper therapy. It can generally be diagnosed without any special history. Aphasia coming on suddenly and unattended by any other paralysis is syphilitic. Other paralyzes of syphilitic origin are apt to be attended by sudden and transient attacks of aphasia. Menoplegias are nearly always syphilitic. Syphilitic paralyzes of slow development are preceded by decided somnolence and are accompanied by vertigo and headaches.

Apoplexies which are caused by embolism are unfavorable, as the cause remains and they are apt to recur. They are to be recognized by a careful examination of the heart, which will be found to show signs of endocarditis.

Finally, we know that cases do recover and recover entirely. This is probably not better exemplified than by the case of the lexicographer Johnson, who after recovering from a severe apoplexy with aphasia, lived twenty years in full intellectual activity.

Dr. CONNER. Speaker is better acquainted with those blows coming from without than those from within. The results of the external blows are generally permanent in their character.

Dr. YOUNG has always been under the impression that both miliary aneurism and atheroma are causes of cerebral hemorrhages, but has gathered from the essay and

the remarks which followed that all hemorrhages were caused by miliary aneurism.

Dr. ZENNER. That cerebral hemorrhages are not caused by atheroma, but by miliary aneurism, has been conclusively proven by Charcot and Bouchard's examination of 78 cases, in all of which miliary aneurisms were found. The fact that about 28 per cent. of all persons over 50 years of age are free from atheroma, and that about 22 per cent. of cases of cerebral hemorrhage are also free from atheromatous degeneration, indicates that atheroma has little if anything to do with the causation of miliary aneurism.

Dr. CONNER. This is the idea that was formerly held in regard to all aneurisms, but it is now pretty generally acknowledged that when an atheromatous patch has undergone calcareous degeneration it strengthens the arterial wall. Aneurisms are caused by inflammation of the middle coat of the artery, and usually occur in persons over fifty. When aneurisms occur in persons under forty years old, they are put down, by some authorities, as of syphilitic origin.

Dr. ZENNER. Hypertrophy of the heart and consequent increase of blood pressure will bring on cerebral hemorrhage by causing a miliary aneurism to burst. Atheromatous disease of the arteries may also increase the arterial tension, and in this way may favor hemorrhage.

Dr. WHITTAKER. It is generally conceded that atheroma does weaken blood vessels, but nevertheless, miliary aneurism is always present in cerebral hemorrhages. The arterial sclerosis which often accompanies kidney disease, also weakens the arteries. Healthy vessels can not be ruptured by any possible increase of blood pressure, and the fact that so many persons are attacked when they are sitting quietly in their chairs, or even lying asleep in bed, when no sudden increase of pressure could occur, shows that the aneurismal dilatations rupture without any increase in the blood pressure.

Dr. STEWART. Would like to ask for information concerning the resultant inflammations. Fever often comes on after several days have intervened since the attack. Is this not due to an inflammation analogous to that produced by a foreign body?

Dr. CONNER. Would like to ask whether there have been any observations

which would go to show that the rupture has taken place deep in the substance of the brain, when the fever is not well marked, and near the meninges when it is of high grade. This is a point in the surgical diagnosis of encephalic abscess of the utmost importance. An encephalic abscess causes little or but very slight rise of temperature unless it be situated near the meninges.

Dr. ZENNER. There is probably fever in all cases of encephalic abscess. Speaker doubted whether there was in the majority of cases of moderate hemorrhage any inflammation more than sufficient to produce a limiting membrane. If cerebritis did ensue, the fever would only be observed several days after the bleeding. But the alterations of temperature referred to by a former speaker, the sudden fall and rapid rise shortly after a hemorrhage, or the rapid rise before death, are not inflammatory symptoms. They are the direct symptoms of injury of certain parts of the brain, especially of the medulla and pons. They have a local significance in so far as they occur more or less readily according to the proximity of lesion to the base of the brain. In latter situation a small hemorrhage may cause these alterations of temperature, but if the lesion is in a distant part of the brain, then it must be of considerable gravity to produce the same manifestations.

Dr. CONNER. There is no doubt but that a deep seated encephalic abscess is not accompanied by fever, and that a superficial one always is. The accompanying meningitis causes the fever, and such fever makes the diagnosis the surer. This is an exceedingly important point in all attempts to localize pus within the brain.

Dr. YOUNG. The fact is certainly well established that in all surgical cases, when the meninges are affected, whether it be of the brain or cord, there is fever and pain, and when the diseased action is situated in the substance of either brain or cord, these symptoms are not present.

Dr. WHITTAKER. Meningeal hemorrhages are not often met with in adults. Two-thirds of all cases are meningeal, but they nearly all occur in children, and include those occurring at child-birth. Apoplexies are pretty much always accompanied by fever which may go up as high as 103° or 105° . The latter high tempera-

ture has only occurred in fatal cases, in the observation of the speaker.

No observations have been made as to the relation between the situation of the clot and the fever.

Dr. MITCHELL. Speaker had recently observed a fatal case; death took place on the third day. The temperature was 107° and respiration 60, four hours before death.

Dr. ZENNER, in closing the discussion, said that the chief object of his paper was to show the relationship between the manner of onset of apoplectic attacks and the durability of paralytic manifestations. The symptoms which come on without a marked apoplectic attack are very apt to be permanent, while those which are but partial manifestations of a decided apoplectic seizure will largely disappear. For only the former are the direct expression of injury to a given part of the brain, while the latter are largely indirect symptoms. Thus a hemorrhage in the occipital lobe, which is the center of vision, may cause in addition to a hemiopia, a hemiplegia and a hemianæsthesia, but the latter being indirect symptoms will not be permanent. On the other hand, if the motor area be the seat of hemorrhage (of sudden onset) there will be besides hemiplegia, hemianæsthesia and hemiopia. But in this instance the latter symptoms will disappear being indirect ones.

The foregoing will help us to this extent in prognosis: that we can say, in case there has been a decided apoplectic attack, some of the paralytic symptoms will disappear. But a careful study of the individual case will often enable us to say much more than this. For instance, if the occipital lobe is the seat of the lesion, a very few days will reveal to us that the motor symptoms disappear much more rapidly than the visual, and thus give us a clue to the final result. By such and similar observations we may be enabled to pronounce at least a probable prognosis of recovery in a given part, even months before that recovery is complete.

There is another means, referred to by a previous speaker, of determining at a later period that a paralysis will be durable. It is in cases where the internal capsule has been injured that the prognosis is least favorable. In such cases there is secondary degeneration of the pyramidal tracts. These are the cases in which is found

late rigidity. The presence of the latter tells us that the paralysis is durable; but the late rigidity usually sets in at so late a period, after some months, that we scarcely need its assistance, as the lapse of time alone is sufficient for a prognosis. But degeneration of the pyramidal tracts is often indicated by much earlier symptoms than the late rigidity; that is, by exaggerated tendon reflexes. The latter may be found within a week or two of the paralytic attack, and therefore, at this early period, will enable us to pronounce a prognosis with a reasonable degree of certainty.

BUTLER COUNTY MEDICAL SOCIETY.

W. W. CALDWELL, M.D., *President*, in the Chair.

Meeting of December 4, 1884.

Treatment of Diphtheria.

The Butler County Medical Society held its regular monthly meeting at the Court House at Hamilton, Thursday afternoon, December 4th. Chair taken at two o'clock, by President Caldwell. Members present: Drs. W. W. Caldwell, A. N. Ellis, Dan Milliken, Geo. C. Skinner, Joseph S. Mc Neely, Wm. Huber, John Cass. R. C. Houston, H. E. Twitchell, C. C. Hoover and T. A. Dickey.

After the reading of the minutes of the last meeting, and there being none of the regularly appointed essayists present, the Society at once proceeded to discuss the treatment of diphtheria.

DR. SKINNER opened with the following notes on a number of cases he had treated during the recent epidemic of that disease in Hamilton.

He began by saying that inasmuch as he had read a paper on this topic at the recent Union District Meeting, which the majority of those present had heard, he would review the cases then reported, and add to them brief notes on several cases that had been treated subsequently.

CASE 1. A child 5 years old. Contracted the disease from a child next door. When first seen the membrane covered both tonsils, and extended to the soft palate and post pharyngeal wall. Voice gone. The treatment consisted of corros. sub. gr. 1-96 every hour, with whisky p. r. w., high feeding. In four days the membrane had almost disappeared, and the corros. was

stopped. On the sixth day the throat was clear and the case dismissed.

CASE 2. A sister to the above, æt. 7. Both tonsils and post pharynx covered. High fever, carotid glands greatly indurated. In this case after four days' use of the corros. sub. ev. hr. in 1-96 gr. doses, the membranes had entirely disappeared.

CASE 3. Mrs. M., æt. 32. Had been nursing a malignant case three weeks before. I found the tonsils both covered. Under the use of the above drug her throat was cleared in four days.

CASE 4. N. W., æt. 4, a delicate child. Both tonsils were covered with a thick, dark gray membrane, carotids tender and enlarged, pulse 115, temperature $101\frac{1}{2}^{\circ}$, voice nasal, respiration free. I put her on corros. sub. gr. 1-96 in hour., whisky very freely, 3 i. every hour. This treatment was continued for five days, at which time the membranes were disappearing. On the sixth day Dr. Milliken saw the patient for me, and found the disease to have extended both to the larynx to a slight extent, the voice being gone and the breathing a little labored, and to the nostrils, these cavities being full of the deposit, with a plug of membrane protruding from either nostril; nose-bleeding frequent and profuse, temperature 101° , pulse 125, great prostration. The above symptoms presenting, Dr. Milliken increased the dose of corros. sub. to gr. 1-64 every hour.

Seventh day—same. Eighth day. Membrane in throat disappearing, voice better, respiration again free.

Tenth day. Fauces clear.

Eleventh day, The membrane began to come from the nose, being drawn away in large pieces and shreds.

Thirteenth day, the nostrils were again free.

Sixteenth day. The child was free from the disease. Discharged.

The child is now almost in her normal condition, yet a little anæmic still. Note, in this case the extreme severity of the symptoms and their rapid disappearance, and also that the drug was given in 1-96 gr. doses for five days, almost hourly, and in 1-64 gr. doses for 8 days, yet no constitutional effects of the drug presented.

CASE 5. A. F., æt. 7, had the disease 4 days before medical advice was sought. When first seen the boy was livid and fighting for breath. Besides invading the larynx, the membrane covered both ton-

sils, the soft palate, and extended up the post nasal space, to all appearances. This was a hopeless case, except by the aid of tracheotomy. Dr. Milliken administered the A.C.E. mixture for me in order that I might operate, but when the child was anesthetized, it was found that the lungs were already filled, and the operation was abandoned. The child died in twelve hours. Corros. sub., was given, gr. 1-64 every hour when I first saw it, but not with any hope that it would modify the symptoms. I do not think that such a case should count against any course of treatment that might be pursued. On after consideration I am satisfied that I should have operated on the case, even if the lungs were in the condition we found them. I regret that I did not.

CASE 6. Æt. 4, sister of the above case. This child had immensely hypertrophied tonsils before the disease began, and when these glands were covered with the deposit the throat was four-fifths occluded. Gr. 1-48 corros. sub. was ordered to be taken every hour. For 48 hours this case progressed nicely, but at that time the disease dipped down into the larynx and so rapidly and extensively that it was very evident that death would ensue in a very short time without an operation, but the parents refusing to allow us to proceed, the child, of course, died in 18 hours. This was the most advantageous case for an operation I have seen. The lungs were sound and the child had sufficient strength to have withstood the operation and the disease. Had I not refused to operate on the brother I think I could have persuaded the parents to allow an operation in this case, and although the brother would have died, probably the girl could have been saved.

CASE 7 was a very slight one, æt. 3 years. Exudation on tonsils very slight. Constitutional symptoms not severe. Under gr. 1-120 corros. sub. the throat was clear on the third day. Had it not been for the fact that a sister of this child was suffering from the disease when this child was attacked (case No. 4) I should have hesitated to pronounce it diphtheria.

CASE 8. C.B., æt. 7. Both tonsils covered. Under the use of the corros. sub., gr. 1-96, the disease had entirely disappeared on the seventh day.

CASE 9. Æt. 15 months, had the exudate extensively on both tonsils. In four days it had entirely disappeared.

CASE 10. S.D., æt. about 23. Both tonsils covered, and the disease had disappeared in four days under the corros. sub. treatment.

CASE 11. M.W., æt. 13. Both tonsils were covered. Corros. sub. gr. 1-64 was given every hour, and the disease had disappeared on the fourth day.

Now, gentlemen, a short resume of the cases: Two deaths in 11 cases, with one case (the fifth reported) that should not be counted as the child was in a dying condition when first seen.

In one case, the eighth, there was for one day a tendency to symptoms attributable to the drug used — some diarrhoea, with tenesmus. In all the others the drug caused no constitutional symptoms.

Heretofore I had seen my cases of diphtheria die so promptly as they presented that I had dreaded to see a case, but with a total of ten cases and one death (the fifth case being discarded, I think we have a showing, that to say the least is highly encouraging. I feel that in the corros. sub. we have an agent that certainly possesses a positive and powerful influence over the disease, and that its use should be persisted in, when, after a large number of cases have been treated, and, more especially, when different epidemics have been treated, we can come to a conclusion as to its remedial effects in the disease. I fortell for this drug the leading position as an agent in the future treatment of diphtheria.

I abstain from entering into the *rationale* of this treatment at this time as I have already occupied too much of your time.

As complementary to the cases reported by Dr. Skinner, Dr. Millikin reported eighteen cases of diphtheria treated with the corrosive sublimate of mercury.

CASE 1. Jimmy R., aged 6. Less than a year ago he was one of four brothers and sisters who had diphtheria in a very malignant form. In his present attack he had the salicylate of soda for the first three days, and during that time the exudation had spread from the right tonsil to the posterior wall of the pharynx, and a deposit was also found on the left tonsil. Respiration was somewhat interfered with, and he refused to lie down. He refused food on account of the pain he suffered on swallowing, and cried when compelled to swallow water or medicine. He was ordered 1-20th gr. of the bichloride every three hours.

On the fourth day he was able to speak

aloud but preferred to whisper. He swallowed with more ease. No great change in the exudation.

On the fifth day he was hungry and the exudation was fast melting away.

On the sixth day there was a little redness where the exudation had been, but, that excepted, the throat was normal.

His aphonia proved to be paralytic in its nature, and persisted in some slight degree for two weeks.

CASE 2. Edward W., aged 9. On the first day he had a cruel, cutting pain in the throat and ears when he swallowed. High fever had been present for twenty-four hours. Both tonsils were covered with a dirty gray exudation, and there were patches on the posterior pharynx and uvula. His breath was horrible from the first. Stinking, bloody serum was running from the nose and continued to be present until the fourth day. He was ordered 1-48th gr. of the bichloride of mercury hourly.

On the second day the fever had diminished, and there was less exudation on the pharynx posteriorly, but the tonsils were unchanged.

On the third day he was spitting constantly and it was reported that he had vomited and had suffered much abdominal pain through the night. He was to take small doses of codeia for twelve hours. The exudation had disappeared from the left tonsil and uvula. The remaining exudation, confined to the right tonsil, was pearly white.

On the fourth day he had a brisk hemorrhage from the nose. The croupy voice of the last two days is improved. The remaining exudation is almost white.

On the fifth day he asked for solid food. There remains merely a small patch of glistening white exudation.

After thirty days he was anæmic and had just ceased to "talk through his nose," and pass a portion of his drink out of the nostrils.

CASE 3. Lena B., aged 11. Very trifling disturbance ushered in the case. On my first visit she showed a very characteristic exudation on the right tonsil, uvula and posterior pharynx. I was informed that the patient's brother had recovered from a sore throat with a deposit precisely similar. The carotid glands were greatly indurated. The voice was completely gone. She had a faint, suppressed, whis-

pering cough, which was almost constant. To take 1-48th gr. of the bichloride every hour.

On the second day it was reported that she had fretted with pain in the throat between naps: 11 night, and that she had had one green, griping stool. When compelled to cough hard she makes great complaint, and always brings up streaks of blood on the expectorated discharge.

On the third day the uvula was clean. The remaining exudation was pearly white. She had some voice returning.

On the fourth day the deposit was so much thinned that the red mucous membrane showed through. She has partly regained her voice.

The medicine was withdrawn on the sixth day. No toxic effects were noticed at any time.

CASE 4. Myrtie R., aged 8, sister of case 1. Went to bed in good health and spirits but awoke with fever and sore throat. Gray exudation on the right tonsil. Ordered bichloride gr. 1-48th every two hours.

On the second day she had vomited, and the medicine was given in half doses for a time.

On the third day the thicker deposit came off *en masse*, and the remainder was very white in color.

By the fifth day the deposit had left the pharynx and the uvula was dirty only at the edges. The deposit on the tonsils was feeble-looking.

On the seventh day there were only three small translucent patches on the tonsils.

CASE 5. Harry C., a fine, stout boy of 11 years. Some fever attracted attention to the throat, when a dense and thick exudation was found on the left tonsil. Great congestion extended to the roof of the mouth. The sub-maxillary glands on both sides were indurated. The bichloride was ordered, 1-96 gr. hourly.

On the second day he was spitting profusely. The right tonsil and posterior wall of the pharynx were involved to some extent.

On the third day the greater part of the exudation was thin, and the small portion that remained thick was very white.

Recovery was uninterrupted, and the boy was discharged on the seventh day.

CASE 6. Jennie W., aged six years, sister of case 2nd. High fever led to a suspicion

of a malarial attack—a diagnosis favored by the former history of the patient. The fever continued for twenty-four hours, and a large gray patch was seen on the left tonsil. There was a sharp pain in the corresponding ear. Ordered 1-48th gr. of the bichloride, hourly.

On the second day her fever was almost gone, and she was spitting freely. In the night she vomited milk, and in the morning a material that looked "like indigo-water." The dose of medicine was diminished.

She made a rapid recovery, and was discharged on the sixth day.

CASE 7. Fred. P., aged nine years. Brisk fever and sore throat, but no deposit on the first day. Ordered 1-60th gr. of bichloride of mercury, hourly.

On the second day a large and thick patch was found on the right tonsil. The dose was raised to 1-48th gr. By evening the boy was spitting incessantly, and the patch was turning white.

This patch persisted for one or two days, but the case ran a very mild course, and was soon discharged. Great anæmia remained for a long time.

CASE 8. Willie G., aged eleven years. Proved to be the first of three cases in one household. High fever and hard glands in the carotid region led one to suspect diphtheria. Ordered 1-60th gr. of the bichloride, hourly.

On the second day we found an abundant deposit on the right tonsil, and a fetid discharge from the nose.

On the third day he began to spit freely, and the fever went down. The exudation was found on both sides of the pharynx, extending upon the tonsils.

On the fourth day he began to take food without compulsion and there was a decided change in the throat.

He made a good recovery and a swift one.

CASE 9. Mary R., aged six years. Had been going daily to get milk at a house where there was a case of diphtheria. Had a well-marked deposit on the pharynx, just behind the tonsils. Ordered 1-96th gr. hourly.

Under very unfavorable conditions this girl made a rapid recovery.

CASE 10. Charlie G., aged 12, brother of cases eight and thirteen. High fever and pain in the throat attracted attention to the boy, when it was found that he had a dense

deposit on both sides. Ordered the bichloride in doses of 1-48th gr. hourly.

On the second day the deposit was whiter. The fever was almost as great as at first.

On the third day the membrane was diminishing at the edges.

On the fourth day there was a marked change in the membrane.

On the fifth day the throat was clean. The boy was very prostrate.

He was discharged in a few days, but after ten days I was called to see him. He had not improved as regards his anæmia, and had fallen into a condition approaching collapse after violent exercise. Albumen was found in the urine, but no casts of any sort.

CASE 11. Otto B., aged eight years. My attendance was asked for on account of high fever and delirium. No complaint as to the throat. The right tonsil was covered with the diphtheritic deposit, and the right carotid glands were as hard as wood. Ordered 1-60th gr. of the bichloride hourly.

On the second day he was found spitting freely. The fever was almost gone. The deposit had spread slightly.

On the third day the deposit had spread a little, but was white.

On the fourth day it was much diminished, and the boy was able to sit up.

By the seventh day he was discharged. No sequelæ. The patient lived three doors from the last preceding case.

CASE 12. Murray A., aged eight years. After twenty-four hours of fever, had a sore throat. Small amount of deposit on each tonsil, and immediately behind them. On the second day there was tremendous constitutional excitement. Convulsions were threatened, and the doses of 1-48th gr. of the bichloride were necessarily interrupted until the nervous symptoms were subdued.

On the third day the deposit was very extensive on the posterior wall. After moderate doses the bichloride was increased to 1-24th gr. hourly, the medicine to be continued until he should begin to spit,

On the fourth day the exudation had advanced to the junction of the hard and soft palate. Fetid serum streamed from the nose. He had two loose discharges from the bowels in the night but no ptyalism.

On the fifth day plugs of the diphtheritic deposit were protruding from each nostril.

No constitutional symptoms from the medicine.

On the sixth day the deposit in the throat was turning white.

On the seventh and eighth days he began to swallow with some ease, and, in spite of the complete disgust for food, he took considerable quantities of milk and whisky.

On the ninth day he was cheerful and comfortable, but alarmingly weak. The bichloride had been withdrawn for twelve hours. He could draw air through both nostrils, and most of the exudation had left the throat.

On the twelfth day he was free from any sign of diphtheria, but his pulse was down to sixty. He took whatever nourishment was offered him, but laid in this condition, cold but not sweating, cheerful, with a very slow pulse, and on the fifteenth day he fainted while in the perpendicular attitude and died.

His urine was albuminous throughout the whole course of the disease.

CASE 13. Eva G., aged four years. A case mild enough to have passed without notice if there had not been two cases of diphtheria in the same family. There was brisk fever for a few hours and a moderate amount of grey deposit. She began to spit profusely on the second day and improved at once.

CASE 14. Susie S., aged four years. Another mild case. No physician until the third day. She began to spit after the administration of 1-60th gr. hourly, and was discharged in three days. She had well-marked paralytic symptoms by the time her brother, case 17., was in need of attendance.

CASE 15. George A., brother of Murray, (case 12). On the first day high fever compelled the administration of aconite and chloral hydrate to check a tendency to convulsions.

On the second day he was ordered the bichloride, 1-48th gr. hourly. The deposit, which was lacking yesterday, was as extensive as I have ever seen in the early stage of the disease.

On the third day the fever was gone, and the deposit had not extended.

On the fourth day there was low delirium without fever. The deposit was white and somewhat diminished in extent.

On the fifth day he was rational, but very weak.

On the sixth day there was some alteration of the voice, but no notable obstruction to respiration up to midnight. The pharyngeal deposit was much diminished.

He died suddenly on the morning of the seventh day.

His urine was very scanty and albuminous for the last four days.

CASE 16. Joseph N. A., father of 12 and 15. A stout man past thirty. After one day of fever his throat became painful and he was ordered the bichloride of mercury at the rate of 1-30th gr. hourly.

On the second day there were four gray patches symmetrically placed on and behind the tonsils. He spits incessantly.

He improved steadily and was discharged on the sixth day, though he had scarcely strength to ride until after two weeks.

CASE 17. Eddie S., aged ten years, brother of case 14. After a day of light fever, a small gray deposit was found on the tonsils.

On the second day there was a slight extension at one point. Spits incessantly.

By the fifth day his throat was clean.

CASE 18. Grace C., nearly eight years old, sister of case 5. Showed a tonsillar exudation after a day of brisk fever. She was ordered 1-60th gr. of the bichloride, as was the last case. Prompt ptialism followed, and the exudation was gone by the sixth day. For a time after recovery, a blue layer of young epithelium (?) marked the site of the exudation.

DISCUSSION.

DR. CASS said that for quite a number of years his favorite treatment for diphtheria had been quinine internally, with local applications to the affected parts of equal quantities of glycerine and carbolic acid. This last fall he had read a number of articles in the medical journals that caused him to deviate from the old way and try iodide of potassium and bichloride of mercury internally, and lime-water and lactic acid topically. He had supported the patient with plenty of beef tea, brandy and quinine. He was pleased with his new line of treatment. The results were promising. At times he had given 1-30th of a grain of the corrosive sublimate hypodermically. In one case he had administered as much as 1-12th of a grain three times a day.

DR. HOUSTON had no experience in handling any form of mercury in the treatment of diphtheria. Up to this time he

had employed jaborandi, sulphur and acornite. In many cases he believed in an early tracheotomy.

DR. DICKEY was of the opinion that we were on the right track. Here lately he had treated five cases with the corrosive sublimate, and liked the remedy. He also thought well of soda salacyl.

He had often brushed the sore-throat with a mixture of the bichloride and glycerine.

DR. HUBER believed in general treatment, especially in the giving of liberal doses of the tinct. muriate ferri.

DR. CALDWELL had been very much pleased and instructed with the discussion. He had always looked with great favor upon potassa chloras as a remedy in all kinds of sore-throat. He generally employed iron and quinine when he was treating a case of diphtheria. In the beginning he always gave a good cathartic dose of calomel.

DR. ELLIS said that the very essence of the disease now under consideration is as yet unknown. Whatever produces fungoid growth, favors its incidence and persistence. It kills in four ways.

1. Asphyxia.
2. Secondary blood-poisoning.
3. Cardiac embolism.
4. Asthenia.

In many cases the attacks are so malignant that the patient is literally *knocked down*. High temperature, headache, vomiting, intolerable fetor of breath, rapid extension of the coating into the larynx, wind-pipe and bronchial tubes, gangrene, albuminuria. All of these terrible things crowd so fast upon the helpless victim that very often he has scarcely a chance for his life. The autopsy of such a case shows that there is scarcely anything about the human economy that escapes. The blood, the bile, the gastric juice, the lungs, the brain, the stomach, the liver, the spleen, the kidneys and even the nervous system fall prostrate before its scorching, paralyzing, destroying sweep. Keep this picture before your mind when you are treating a case. Be sure of your diagnosis. Diphtheria may simulate and be simulated by scarlet fever, confluent herpes of the throat, acute tonsillitis and acute laryngitis.

During the prevalence of the diphtheria here in Hamilton lately he had seen but one case of the disease, and that he had treated with inhalations of steam. It was

no use to tear off or burn off the exudation. It only reproduces itself in a few hours. The use of strong solutions of nitrate of silver is barbarous practice.

In the treatment of all throat troubles the teachings of Morrell Mackenzie and Lennox Browne had great weight with him. He believed that the air of the room in which the patient is should be kept warm and densely saturated with moisture, concentrated beef-tea should always be at hand and should be given freely. Alcohol ditto, iron ditto, quinine ditto. A spray of bromine, bromide of potassium and water often does good. The Russians and Italians have found sulphur a valuable remedy in times of the fatal and terrible epidemics that have swept over those countries. Many eminent men thought that this drug destroyed the bacteria which lay at the very foundation of the disease. Dr. Ellis had listened to Drs. Skinner and Milhkin with a great deal of interest. He had no personal experience with the bichloride of mercury in the treatment of diphtheria, but he was willing to give it a fair trial.

Morrell Mackenzie in speaking of mercury says that it should never be used in diphtheria for it rather promotes than checks the spread of the exudation.

Mercury is a remedy of vast and varied powers, an agent of wondrous properties. By some inscrutable chemical process of which we know nothing, it decomposes the blood, depriving it of one-third of its fibrine, one-seventh of its albumen, one-sixth of its globules, and at the same time loads it with a fetid matter, the product of its own decomposition. Truly it is an agent of terrible activity. Its blood-operation by which it is enabled to contract morbid processes is involved in deep obscurity. Every generation of medical men has produced some new theory. Boerhaave, Brest, Pitcairn, Percy, Mead and Sydenham have all had their say, yet we may be as far from the truth as ever. Old John Hunter used to say that the reason why mercury cured syphilis was that two poisons cannot work in the system at the same time, so that when the poison of mercury has its way the poison of syphilis must yield. Granting that the corrosive sublimate is a very valuable remedy in diphtheria, perhaps that is the very way it acts. If mercury decomposes the blood so does diphtheria. Perhaps one morbid process is offset or counteracted by another. In

diphtheria the primary Septicæmia is due in the first instance to the specific poison, but absorption from the decomposing lymph is no doubt also a cause of secondary infection. In all cases the attack is associated with some degree of constitutional disturbance while in the severest forms there is extreme disorganization of the blood, and consequent implication of nearly every tissue of the body.

Dr. M. said that he had just reported more cases than he had ever seen previous to the last three months. He deemed the late epidemic to be severe in its type, and one that would have filled him with dismay in former times. He hoped we had a drug which attacked the disease in the remote corners of the system and, when eliminated from the mucous glands of the mouth and pharynx and from the salivary glands, attacked the disease in its favorite breeding-place. Recalling the fact that his cases did well after they began to spit, he expressed his determination to administer pilocarpine to give a hint to nature that she was expected to eliminate the corrosive sublimate through the mouth. He would endeavor to do this with a few doses, for he regarded pilocarpine as a dangerous drug in this depressing disease. He made a plea for more extended trial of this promising treatment and for a careful record of cases, so that the experience of the society would far transcend the experience of a few individuals in a single endemic.

This closed the discussion.

MEETING.

The next meeting of the society will be held at Venice, on the 1st of January, and will consist of two sessions, the first one beginning at 10 a.m. Dr. Hoover of that place has kindly invited the society to hold the meeting at his house and partake of his hospitality. At that time Drs. C. A. L. Reed, Dickey and Macready will be the regular essayists, and "burns and their treatment" will be discussed, Dr. Ellis opening the discussion with a paper. The annual election of officers will take place then.

The Ohio State Sanitary Association will hold its Second Annual Meeting in Columbus, February 5th and 6th, 1885. Programmes containing full information as to Papers, Railroad rates, etc., can be obtained from the Secretary, Dr. R. Henry Reed, Mansfield, Ohio.

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Cincinnati, December 20, 1884.

At the next meeting of the Cincinnati Medical Society, Dec. 23, 1884, Dr. John L. Davis will read a paper on "The Hereditary Transmission of Pulmonary Consumption."

THE College of Physicians and Surgeons of Chicago has extended a call to H. V. Sweringen, A.M., M.D., of Fort Wayne, to occupy the chair of Materia Medica and Therapeutics of that institution.

Translations.

THE AUTOPSY. (I)

[CONTINUED.]

The lungs should never be removed before the heart, as is not infrequently done; for in cutting the great vessels, the cardiac contents are greatly modified. Moreover, any possible pathological communications between the pericardium and the great vessels and bronchi are destroyed, and any subsequent examination in reference to this point is conducted with extreme difficulty.

Examination of the Pericardium and its Cavity.—Having examined the position of the pericardium in reference to any possible anomalies, the fibrous sac-wall is raised up and incised in the median region sufficiently to permit the introduction of two fin-

1. From a Manual on the Technique of the Autopsy.

gers, which are made to separate the lips of the incision while the latter is extended towards the base on the right side and then on the left. Now, turning up the right flap the cut is continued to the level of reflection of the parietal pericardium over the great vessels. Of course the presence of gas should have been noted, and the fluid collected on first opening the sac.

The amount of fluid contained in the pericardium varies normally from one half to two tablespoonfuls. The quantity is easily determined on raising up the apex of the heart, under which the fluid collects. The quantity, as is well known, is increased when the process of death is much prolonged. Note the nature, color, odor, etc., of the fluid and also whether the cavity contain any flakes of lymph or other free or foreign bodies.

Note whether the serous surface is shorn of its normal polish, hyperæmic, or covered with false membranes, tubercles, etc., or shows secondary carcinomatous spots, or the presence of parasites; if adhesions exist, note whether they are partial or general, and if general, whether they can be broken up. It is all-important to determine the points at which the lesions are most pronounced, and then to make out as far as possible whether the pericardial involvement is due to an extension of lesion from neighboring organs, e.g., from a mediastinal abscess, pleurisy, pneumonia, peritonitis, or alterations of the myocardium, or even the endocardium. In certain cases it is possible to follow the extension of the lesions, but often this cannot be done, on account of the general dissemination of the pathological process which has invaded the pericardium.

It should be remembered that a pericarditis frequently commences at the level of the great vessels, that it is common to find at that locality bristles of long standing or recent origin, besides hyperæmia or false membranes. It is in this region especially, also, that one should search for the various lesions which have their origin in the numerous glands of the neighborhood — pigmentary changes, tuberculous and carcinomatous spots, carcinoma of the œsophagus, ulcerations, communications between the pericardium and the bronchi or œsophagus, which may be the cause of a purulent pericarditis or pneumo-pericardium. Such lesions of the pericardium originating in the neighboring organs are not unfrequent-

ly found in old subjects, and are due to melanotic changes, with calcification, softening, etc., of the glands and surrounding tissues.

Pericardial hæmorrhage indicates rupture of an aneurism, bursting of a coronary artery, or even of the heart-wall, resulting from changes of the myocardium. The preceding points illustrate the necessity of examining the sac at the level of the great vessels. Sub-pericardial ecchymoses are ordinarily more abundant on the visceral than on the parietal layer, being especially frequent along the coronary arteries. They are to be considered as symptomatic of very diverse affections in which, in consequence of some pathological changes, as in those resulting from prolonged asphyxia, the capillaries offer less than their normal resistance.

We should not, therefore, as has been done by M.M. Tardieu, Briand, Lutand, and others, attribute so much medico-legal importance to these subpericardial as well as subpleural ecchymoses, in reference to suffocation.

Those patches called milk-spots, whether of inflammatory origin or not, have been observed in countless autopsies. They are habitually found on the anterior aspect of the right ventricle.

Examination of the Heart. a. External Inspection. The inspection of the sub-pericardial adipose tissue should precede the opening of the heart-cavity. Normally the fat is more or less abundant at the base of the ventricles and along the track of the anterior furrow, and any deviation from the normal amount, especially any augmentation of it should be noted. In certain cases the adipose tissue covers a large part of the ventricular surfaces. The fatty growth is so marked at times as to completely envelope the ventricles, sending prolongations between the layers of muscular fasciæ even to the endocardium (fatty infiltration).

After observing the position of the heart, note its diastole or systole, any anomalies of formation, (bifid formation) coloration, etc. Its size can be determined by comparison with the closed fist of the subject. Notice the extent to which each ventricle enters into the formation of the apex, the condition of the latter, the state of injection of the superficial vessels. In cases of asphyxia the clots of blood in the auricles and their appendices should be observed.

Opening of the Heart in situ. This opera-

tion is practiced for the purpose of determining the amount of blood within the cavities, and the condition of the auriculo-ventricular orifices. The incisions necessary are four in number, and should be conducted on the same plan. The heart is seized at the base with the left hand, the index finger being placed under the organ, and the thumb placed a little behind the right border of the right ventricle. Now by a movement of rotation the heart is carried towards the left, bringing the right border forwards. The heart being now drawn downward and turned to the left, may be supported in the left hand, the index finger being forward in the auriculo-ventricular groove, and the thumb slightly back from the right border of the ventricle. Now an incision should be made into the right auricle, between the two venæ cavæ, and stopping at the auriculo-ventricular septum. Skipping the septum the cut should be continued downwards along the right border of the ventricle to the apex. The knife should penetrate the ventricular cavity, but in finishing the incision care should be taken to avoid cutting the septum. (The left ventricle usually forms the apex, and some operators open the left side of the heart first.)

Note the quantity, color, consistency, etc., of the blood which escapes. Removing a part of the clots which fill the right auricle, and measuring their amount, the index and middle fingers of the left hand are introduced through the tricuspid orifice into the right ventricle, and the extent determined to which they can be separated from each other. In the normal state of the orifice three fingers can be passed through it. This standard is of course relative, depending on the size of the operator's fingers. These manœuvres should be conducted without the least violence, in order not to destroy any pathological changes which should be subjected to an ulterior examination. Moreover, a violent manipulation would afford no appreciation of an existing stenosis. For effecting the two last incisions the thumb of the left hand is placed on the anterior face of the right ventricle, or better, introduced through the incision into its cavity, the posterior surface of the heart resting on the palm of the hand, the pulps of the fingers being concealed a little behind the left border of the ventricle. This mode of seizing the organ will cause the left side of the heart to bulge into prominence. Now ro-

tating the hand so as to turn the heart downward and over toward the right, the left auricle is incised between the two trunks of the pulmonary veins, leaving, as on the right heart, a space of one centimetre between the auricular and ventricular incisions. The latter cut is necessarily deeper than on the right side. The examination of the mitral orifice is made in the same manner as that of the left. (!)

It is necessary to keep in mind all the while the degree of contraction of the ventricle, and to overcome with the greatest gentleness the cadaveric rigidity.

Removal of the Heart: The index finger and thumb of the left hand being introduced, the one into the right, the other into the left ventricle, through the incisions already made, the heart is raised by its apex, which is turned up toward the head of the subject.

By means of long horizontal incisions which graze the posterior parietal pericardium, the inferior and superior cavæ are cut, the pulmonary veins, the aorta, and lastly the pulmonary artery. The valves should now be examined.

Cautions.—Never should the heart be removed previous to the examination of the pericardial cavity. Whatever exceptions may be necessary to the determination of lesions in this cavity, the heart should never be removed nor the lungs, previous to the opening of the heart *in situ*. None of these incisions should be made with the scissors or scalpel, but with the common autopsy knife. Continuous incisions across the auriculo-ventricular septa, and cuts made transversely to the apex, are to be prohibited.—

F. O. M.

GANGRENE OF LUNG; DRAINAGE; RECOVERY. (*Med. Times and Gazette*, May 31.)

A girl, twelve years of age, who four years previously had scarlet fever followed by otorrhea, now had an acute abscess over the left mastoid process, and extensive denudation of bone about the external auditory process. The abscess was opened and some soft necrosed bone removed. In ten days she had pyemia, followed in five days by pleurisy and signs of consolidation at base of right lung. Eleven days afterward there were signs and symptoms of a

1. The mitral orifice usually admits but two fingers with ease. The three valved orifice admits three fingers, and the two valved, two fingers.

TRANSLATOR,

cavity with gangrenous contents. Mr. G. at a point where there was "bubbling crepitation" introduced a large trocar and canula, and through the latter a large drain-tube. Fetid pus and gangrenous lung-tissue were passed through the tube. At the end of forty days the patient was discharged cured.

Bibliography.

LECTURES ON DISEASES OF THE RECTUM. (1)

This book is a reproduction of a series of clinical lectures delivered at the Medical Department of the University of New York, and originally published in the *Medical Gazette*.

It is a good, concise treatise on the diagnosis and treatment of diseases of the lower bowel.

SPECIAL PATHOLOGICAL ANATOMY. (2)

During the last decade the special study of pathology and pathogenesis has taken giant strides, and more than kept pace with all kindred lines of investigation. In this particular field no one has been more enthusiastic, original nor successful than the distinguished Tübingen professor. The volume now before us constitutes the second part of Prof. Zeigler's well-known and popular text-book. Although but a short time since the first part was issued from the press, yet such has been the demand that already two editions have been exhausted, and there is a loud call for another. When the author first projected his work on pathological anatomy he intended that it should be finished in two volumes, but since then the subject has so grown on his hands that now he finds that a third will be necessary. That part will contain the sections of the Kidneys, the Lungs, and the Nervous System, together with the general index of the whole work. The second part treats of the pathology and pathogenesis of the Blood and Lymph, the Vascular Mechanism, the Spleen and Lymphatic Glands, the Serous and Mucous membranes, the Ali-

mentary Tract, the Liver and the Pancreas and the Skin. No one can lay Dr. Zeigler's work aside after a careful perusal of its pages without being profoundly impressed with its great intrinsic value. Every page bears the impress of thorough, persevering, scientific research. Typographically it presents a very fine appearance. The illustrations are 200 in number, and are all new and valuable.

Selections.

MEDICINE.

ACUTE PAINFUL PARAPLEGIA. — This is the name given by Dr. Dumolard, of Ville, to a peculiar form of paraplegia observed by him in five patients and described by him in the *Revue de Méd.*, July 10, 1884. It begins by a sensation of pain and stiffness in the back, soon followed by the apparition of the same symptoms in the lower extremities, and sometimes in the arms. The pain increases gradually, and may become excruciating. Fever is unusual, and the general state of health remains good. The reflex movements are much increased; but the legs can only be moved with much difficulty by the patient, and there is often paresis of the bladder. After an acute period lasting from ten to fifteen days, the symptoms begin to disappear, and in four or five weeks the patient recovers entirely. Salicylate of soda and quinine have no power over the disease. The best treatment seems to consist in blisters on the back, saline purgatives, and bromide of potassium. Dr. Dumolard thinks that this disease differs only in degree from the epidemic paraplegia observed fifteen years ago at Anzanon, in Spain, and described by Bockhammer. — *Med. and Surg. Reporter*.

MENTAL THERAPEUTICS. — In the course of his address before the New York State Medical Association, Prof. Austin Flint said: "The physician who appreciates the importance of mental therapeutics, and of the duties incident thereto, will not fail to hold out to patients the encouraging features of a case. He will not give way to gratuitous forebodings. He will be circumspect in forming, and still more in announcing to his patients an unfavorable prognosis. He will be slow to hazard a prediction as to the precise date that a disease will prove fatal, and still less will be

1. By J. Williston Wright, M.D., Professor of Surgery. New York, Bemingham & Co., pp. 170. Price \$1.25.

2. By Ernest Zeigler, Prof. Path. Anat., Univ. of Tübingen. Translated and edited by Donald Macallister, M.A., M.B., M.R.C.P., and Medical Lecturer St. John's College, Cambridge. Cloth, 8vo pp. 371. \$3.50. London: McMillan & Co. Cincinnati: Robert Clarke & Co.

guilty of the brutality of imitating a judicial sentence of death. He will keep out of the view of his patients discouraging possibilities, but not those which warrant hope. He will strive judiciously and skillfully to bring to bear all the potential mental agencies of which he may properly avail himself. He will throw on the scale of hopefulness all the weight to be derived from those doubts and difficulties which beset diagnosis and prognosis. He will make due allowance for the limitations of medical knowledge and his own deficiencies."—*Med. and Surg. Reporter.*

MALT-EXTRACTS AS FOOD.—By J. Milner Fothergill, M.D., Edin., in *The Practitioner*.

The use of malt extracts is the direct outcome of the practical aspect of chemical knowledge in its bearing upon clinical medicine. The chemist observed that in the process of malting, the starch of the barley underwent precisely the same change as does starch in the human mouth, viz.: the conversion of the starch into grape sugar under the action of a ferment (diastase). The identity of the change led to the utilization of the diastase of cereals for the needs of human infants where the digestion of starch is defective. Hence the numerous malt extracts now placed on the market.

By admixture with farinaceous food before being eaten, or by being taken practically simultaneously with such food, or before the stomach has become distinctly acid in the digestive act, malt extracts have been found highly useful in the conversion of starch into grape sugar. But it is not with this diastasic value of malt extract that the present paper is engaged, but rather with their value as food *per se*.

In the malting process the starch of the grain is more or less converted into grape sugar; probably some is converted into maltose, while some is less completely acted upon, but is put forward some way toward grape sugar. In addition, however, to this amyloid metamorphosis, the albuminoids of the grain and the mineral salts thereof are retained in a highly soluble and digestible form in malt extracts. As a consequence, malt extracts form a most useful food where the digestion is gravely impaired, whether in infants or adults. They constitute, indeed, a food of a highly nutritious character in small bulk, and are

therefore available when the stomach represents the presence of any bulk food, as the following case illustrates.

Mrs. C., a middle-aged woman, with a very tetchy stomach at the best of times, had it decidedly upset, with the result that she was rapidly wearing out by starvation. Of the few things she could take the medical men in attendance had tried every one, and left me no solitary arrow to fire except malt extract. She was ordered a teaspoonful of malt extract every hour. The stomach tolerated it famously and she got quite well. Her husband wrote to me some time ago (in answer to an inquiry in reference to the present paper): "Mrs. C. lived *entirely* on the malt extract for about two weeks, and then she was able to take other food in small quantity, and continued the malt extract, feeling quite satisfied with it." (After six months.)

In another case, where the patient had been discharged from a metropolitan hospital for cancer of the stomach, and where the viscus could be felt contracted into a mass like a cricket ball, all food was rejected more or less completely. As it was clear the food must be small in bulk as well as nutritive in character, I advised the *Cremor Hordeatus Loffiundi* (cream deprived of much of its water and preserved by malt extract) in a small quantity, about the size of a filbert, every hour, with the result that the patient rallied and felt much better. Three months later she was still holding her own.

With many patients the malt extract is relished, but unfortunately other stomachs rebel against it, though these are a minority in my experience.

It is not, however, only in such desperate cases as the above that malt extracts as food are of avail to us. In many cases where the digestive powers are very feeble, and where the patients, to use their own language, complain: "I cannot eat enough food to make me strong, and if I could I could not digest it," malt extract as a food requiring a minimum of the digestive act is very useful. It can be taken either alone or added to some warm milk. In such cases it can be taken an hour or an hour and a half after meals, in many cases with advantage.

Especially when some food is required during the night is this admixture of milk and malt extract of service. It can be prepared at bedtime and kept near the bed in

a hot water jug — the lid preventing any taint of the room, and be kept warm under a cosey.

Not only are these malt extracts foods of high value in certain cases, but other foods prepared by the malting process are useful. One of these is the well-known Mellins' food for infants, a most palatable preparation. Another is Liebig's malted food extract, not nearly so toothsome. Doubtless there are many more, but these will serve to illustrate my meaning. Such foods can be added to milk with great advantage in many dyspeptic conditions.

Though not quite appertaining to the present paper, it may not be out of place here to allude to the many prepared foods for infants now sold, and which are equally good for dyspeptics. They consist of flour which has been subjected to a high temperature. That is the main fact to remember. In its solubility in the digestive act there is all the difference in the world between raw, uncooked flour and flour which has been previously cooked, as in prepared food or baked flour. Such cereal matter can be added to milk or beef tea, or made into puddings, with the greatest advantage. Farinaceous matters of this "baked" flour order are especially indicated where the digestion of starch is feeble, whether malt extract is used therewith or not. By combination of the two excellent results can be obtained in cases of grave indigestion.

In the case of a lady who came over from the United States to consult me about her digestion, the result was most satisfactory, being beyond her expectations. Many other cases could be mentioned, but two must suffice.

Miss M., a spinster, seen along with Dr. Walker, of Peterborough, was put upon the dietary suggested above. One month after this, the report was: "She seems better, and thinks herself so. She still sticks to the cremor and the malt, and says that she dare not take any solid food. Her sickness is better, also the pains."

After the lapse of six weeks she herself reports: "I am going on as well as you led me to expect. I have made no material change in your dietary all this time, and thoroughly enjoy it." This last is a great matter, for dyspeptics as a rule loathe the food they ought to eat, and even if they do not do so, the dietary is apt to become wearisome from its monotony, as it does not allow of much variety. She also al-

ludes to the freedom from pain which she now experiences, as compared to what she felt before this line of treatment was adopted. Partial success is all that is attainable in this case, but the patient is more comfortable than she was.

In another case, seen with Dr. Henderson of Coldstream, the limits of indigestion compatible with existence had been reached. The patient, a female of twenty-one, had been subjected to a long course of semi-starvation, with the result that the digestive powers were seriously impaired. The patient was confined to bed almost from sheer debility, and she nearly fainted while being examined. She could take but very little food, and diarrhoea was readily provoked. She was put upon a dietary of milk with malt extract, and Mellin's food, with a small opium pill night and morning. After six weeks Dr. Henderson wrote to me as follows: "I am attending our patient, and am glad to say that the new line of treatment has made a wonderful change in her health, though the diarrhoea still continues at times, which of course weakens her somewhat."

Considering that the morbid condition had lasted about two years when I saw her, the result was a satisfactory one.

From a letter received as this article is going through the press, it seems that the improvement is maintained. The doctor writes me, "She feels much stronger and says that at times she really feels much better. She gets up now for some hours every day, and takes a certain amount of exercise. If the diarrhoea could only be got rid of, my belief is that the new treatment by feeding would make a very rapid cure. When she commenced the extract of malt this left her, but there is always a tendency that way. She has taken a fancy to the malt and quite enjoys it."

Two patients at least positively like the dietary. This last case is one gratifying alike to the patient and to the medical attendants.

To these two illustrations may be added a case coming under my hands at Victoria Park Hospital.

A tongue raw in patches was only one of the sinister symptoms a girl exhibited when taken into my wards. Knowing the danger involved in these cases (with even a guarded dietary) of setting up diarrhoea, which goes on to tuberculous ulceration of the bowel—from a bitter experience—I or-

dered her milk and malt extract and nothing else. I went off on my autumn holiday without any hope of seeing this patient again. To my surprise and satisfaction on my return she was not only alive but considerably better. The dietary had been continued with military obedience with the best results. But it was certainly monotonous, so I allowed her a little boiled white-fish. This disagreed, and she had to go on with the old dietary, on which she improved.

So much, then, for malt extracts as food. Malted foods differ from malt extracts in that the diastase is killed by the heat employed. As food they are about as good as malt extract, but they possess no diastatic power.

Further, in cases where ordinary sugar undergoes acetous fermentation in the stomach, malt preparations are indicated. Sugar is a main source of fat, and is indicated in all cases of emaciation. In his admirable little work on *Materia Medica and Therapeutics*, Dr. Mitchell Bruce makes this important statement:

"Maltose is a form of sugar which does not ferment, and will not give rise to acidity and dyspepsia." In the sadly numerous cases where acidity is caused by ordinary sugar in malt extract and malted preparations, we find a sugar of the highest utility in practice as not liable to acetous fermentation.

It is hoped that the experience here recorded will encourage other medical men to make use of malt extracts and their allies as food in cases of deficient assimilation.

THE NERVOUS DISCHARGE.—By Charles Mercier, M.B., in *Brain*, for Nov., (continued from our last issue).

Having now considered separately in the fibre and in the cell the molecular movements which constitute their function from its physical aspect, let us see in what way these movements will be modified in their passage from the fibre to the cell and from the cell to the fibre. For the present purpose, those cells which are directly continuous with fibres may be regarded as bulgings in the course of fibres—as protuberances at a place of division. Now suppose a wave of discharge to proceed along a nerve-fibre and to arrive at one of these bulgings; what will happen? From the point at which the nerve joins the cell a discharge will spread through the whole

cell-substance. The cell will discharge in an explosive manner, and will liberate a relatively large amount of force in a short time. This force, liberated by the molecules within the cell, seeks to escape. A head of pressure is established which tends to a restoration of equilibrium by flowing off in directions in which pressure is less. The force is pent up in the cell much as condensed gas is pent up in a soda-water bottle. It presses in all directions against its envelope. But the boundary of the cell is composed of material which is, metaphorically speaking, too rigid to yield to the pressure. The bounding molecules are too stable to be upset by any force that can be liberated within the cell. The force has to escape wherever there are openings in the boundary—in other words, wherever the cell-substance is prolonged into fibres; and these openings are few and small in comparison with the whole area of the cell. As in other cases where a considerable pressure escapes through few small openings, the rush through each opening will be of considerable intensity—of much greater intensity than would be the case if the force escaped freely over the surface of the discharging cell. We see, therefore, that for many reasons the discharge of a cell along the fibres emerging from it will be far more powerful and far more intense than the discharge whose entrance set up the discharge of the cell. In other words, a discharge in passing through a cell undergoes three changes.

1. Except in bipolar cells, which are few, it is communicated from a single fibre to several fibres.

2. It is increased in force.

3. It is increased in intensity.

This increase in the force and intensity of the discharge is very great and sudden, and in comparison with it the increase gained by a discharge in passing along a fibre is insignificant in amount and, what is perhaps of more importance, is gradual in its accession. For these reasons the term "discharge" is often limited to the process as it occurs in the cell; the process as it occurs in the fibre, although identical in nature, being neglected.

So far we have dealt with the physical functions of the grey matter as occurring in a structure of constant composition. We have considered the force set free by the discharge of the molecules as traveling from place to place, becoming diffused,

impinging against other molecules, and effecting their discharge. We have followed the course of the discharge from the fibre to the cell and from the cell to the fibre, and we have not forgotten that it may permeate the matrix also. But every disturbance that has yet been noticed is purely and necessarily a temporary one. If the change produced in a molecule by the rearrangement of atoms which constitutes its discharge were a permanent change, it is obvious that the molecule would be of no further use. Thenceforth it would be only an obstruction and an encumbrance. Only on condition that the fallen atoms are replaced, and the molecule restored to its previous condition, is a further exercise of function possible. All that we have at present considered is an oscillation of structure from a condition of less stability to a condition of greater stability and back again; this oscillation of structure being accompanied by a concomitant variation of function, the molecules now liberating, now accumulating force. We have now to notice that, besides this temporary effect, there is produced by each discharge a permanent effect, which is of enormous importance, and which is the basis of the psychological function of the grey matter, as the changes of which we have hitherto spoken are the basis of its physiological function.

Every wave of force that passes through the grey matter discharges all the molecules against which it breaks that are sufficiently unstable to be affected by it. Whether a molecule is discharged by a force, depends upon three conditions. First, on the constitution of the molecule as stable or unstable; second, on the degree to which, if unstable, it has recovered from a previous discharge; and third, on the direction with respect to its polar axis from which the force arrives. Some molecules, even of extreme complexity, such as those composing the medullary sheath of nerves, are of such stable constitution as to be incapable of discharge, and probably all molecules in the grey matter are not equally susceptible to this change. A molecule which has recently been deeply discharged and has not had time for recuperation, will not, it is manifest, suffer discharge except on the impact of a very powerful force. But supposing all the molecules of a tract of grey matter to have a similar constitution, and to be equally charged, then the facility

with which a discharge passes through it will depend on the condition of the third factor—on the degree to which the direction of the wave approximates to the direction of the poles of the molecules. Suppose that the poles of all the molecules are parallel to one another, and suppose that the impinging force travels in the polar direction. Then it is obvious that the facility for the passage of the discharge is at a maximum. Such a molecular structure is the most permeable possible. But now suppose that the discharge passes through a structure in which the majority of the molecules have their poles in the direction of the course of the discharge, but some are placed obliquely at various degrees of inclination to this direction. Such a structure is manifestly less permeable to the discharge than the previous structure. Hence, when discharges of equal strength enter a given thickness of each structure, a less amount of discharge will emerge from the second tract than from the first. A residue of force equal to the difference between the two discharges on their exit has been retained in the second tract. What has become of this force? In what way has it been disposed of? *It has been used up in shifting the molecules so as to bring their poles nearer to parallelism.* Whenever a discharge passes through a tract of grey matter which has not reached its maximum of permeability, a part only of the discharge issues from the tract, and the remainder is spent in rendering the tract more permeable. The less permeable the tract, the greater the proportion of the discharge used up in increasing its permeability. The more permeable the tract becomes, the less the proportion of the discharge devoted to this purpose, and the greater the proportion that emerges. When the permeability reaches its maximum, the discharge that emerges is actually greater than that which enters, owing to the accession that it receives from the decomposing of the molecules. How the passage of a wave of force through an aggregate of molecules of different degrees of stability changes the less unstable molecules into more unstable ones, is perhaps not yet precisely ascertained. Those who desire to pursue the subject will find it discussed at length in Mr. Herbert Spencer's 'Principles of Biology,' §§ 3 to 23, and 304; and in his 'Principles of Psychology,' §§ 223 to 230. It will be enough here to quote two illus-

trations from those great works, which serve to give an accurate notion, not indeed of the kind of change that takes place in this particular instance, but of the manner in which a force in passing from particle to particle may be expended in two ways, part being absorbed in altering the disposition of the particles, and the rest being passed on to the extremity of the series of particles. "Take the rude analogy furnished by a row of bricks on end, which overthrow one another in succession. If such bricks on end have been adjusted so that their faces are all at right angles to the line of the series, the change will be propagated along them with the least hindrance; or, under certain conditions, with the greatest multiplication of the original impulse. For when so placed, the impact each brick gives to the next, being exactly in the line of the series, will be wholly effective; but when they are otherwise placed it will not. If the bricks stand with their faces variously askew, each in falling will have a motion more or less diverging from the line of the series; and hence only a part of its momentum will impel the next in the required direction. . . . Suppose that the row of bricks, which were at first very much out of parallelism, have fallen, and that part of the motion given by each to the next has gone towards bringing their faces nearer to parallelism; and suppose that, without further changing the positions of their bases, the bricks are severally restored to their vertical attitudes; then it will happen that if the serial overthrow of them is repeated, the actions, though the same as before in their kinds, will not be the same as before in their degrees. Each brick, falling as it now does more in the line of the series, will deliver more of its momentum to the next; and less momentum will be taken up in moving the next towards parallelism with its neighbours."

A further consequence of this increasing permeability of the tissue to the discharge will be the increasing limitation of the discharge to narrower and narrower channels. "Along a line of discharge, there is a genesis of the matter most capable of communicating the discharge. Every time an incipient nerve is traversed by another wave of molecular motion, there is apt to be a further formation of the molecules which are isomerically transformed by the wave and pass it on in being transformed. This process acts with continually increas-

ing power, for two reasons. One is that progressing limitation of the wave to a well-marked line, enables it to produce more decided effects along that line. An illustration will here help us. When a body of water flows over a surface offering no distinct course, it thins out into widespread shallows near its margin, where it is almost motionless; and it has but little motion even along its central deepest parts. But if the inundation is long continued, the abrading action of the current along these central deepest parts where it moves fastest, tends to deepen its channel there more than elsewhere. A secondary result is a retreat of the water from the shallows—the current becomes more concentrated. In proportion as it becomes more concentrated, the force of its central part becomes greater still, and the deepening more rapid; which entails a further drawing-in of the margins and a further addition to the excavating force. So that the growing definiteness of the current brings a growing power of making its channel quite definite. Now though in the case before us we have not a motion of matter over matter, but a transfer of molecular motion from molecules to molecules, the parallel holds. Any greater effort produced by the transfer along one part of its originally broad course, similarly tends to concentrate the transfer along this part, and thus to intensify the action which makes this part a precisely marked channel. A further facilitation results from an absolute increase in the amount of the nervous discharge. The more permeable the line of molecules becomes, the greater becomes the initial quantity of molecular motion it draughts off. As with water, the formation of a definite channel not only makes the transfer easier and adds to the excavating power of the current, supposing its volume be constant, but also (if the reservoir can supply more) augments the volume carried away, which again adds to the excavating power; so the formation of a better line of nervous communication is followed by an increase of the wave that sets out to traverse it, and a consequent increase in the channel-making action. Once more, every addition to the molecular motion transmitted, adds to the effectiveness of each discharge in overcoming an obstacle. Suppose the greater part of its channel has become tolerably permeable, but that at some place in it the colloidal matter is less transformed than elsewhere into the fit type.

Then the more the rest of its channel increases in permeability, the more powerful must be the wave of molecular motion brought to bear on the untransformed part, and the greater must be the tendency to transform it. Hence the channel will progress towards a state of uniform permeability."

From what has gone before, the reader will have perceived that the freely permeable channels of communication, or the lines of aggregation, of the most unstable molecules are the nerve-fibres. This is common knowledge. What is not so generally recognized is that other channels of communication exist. Apart from the foregoing reasoning and from all question of the mode of origin of nerve-fibres, there is ample evidence of the existence of such other channels. It is a fact that a vast number—an overwhelming majority—of the nerve-fibres in the grey matter end at one extremity as fine points—have no discernible channel into which the waves of force that traverse them can be delivered. Each advance in our means of research enable us to trace these nerves a little further; but still their destination eludes us, the newest researches show us no more definite ending than a tapering point. If the matrix of the grey matter has no carrying function, each of these fibres is functionless. They are all histological abortions—tentative efforts, which have failed, to connect distant cells. An hypothesis which involves the supposition that the immense majority of nerve-fibres are so much waste material, is monstrous. According to the views that are here advocated, such fibres are merely portions of channels. They are those portions in which the process of mobilisation is complete; and they are supplemented by prolongations in which the process is incomplete—in which the molecules that have acquired the maximum of instability, and at the same time have acquired the power of acting differently on reagents and on light, do not constitute a sufficient proportion of the molecules forming the whole channel to give it, as a whole, optical and other qualities so distinct from the surrounding matrix as to enable us to recognize it as different. This is not mere hypothesis; for where we have a reagent which effects more powerfully than previous reagents these altered molecules, it enables us to trace the nerve-fibres further than a less powerful reagent. In other words, it

brings into view prolongations of the fibres that were before invisible.

It is not, however, necessary to suppose that every nerve-fibre is prolonged by a definite, if invisible, channel to an ending in a nerve-cell. If the doctrines here advocated are correct, there must be many, very many fibres that have no such definite termination. It is one of the most vital principles of that neurology which forms the basis of psychology, that nerve-fibres and nerve-cells are not the only channels of communication in the grey matter. If the visible channels terminate in channels which are not sufficiently differentiated from the matrix to be visible, the inference is obvious that the discharge, which in passing along the visible channel is restricted to that channel, may, when it reaches the invisible channel, begin to spread into the matrix which is so little different. And if the fibres are gradually formed out of the matrix by the passage through it of discharges, then of course the matrix must be permeable to the discharge. This doctrine supplies functions at once to those apparently aimless fibres that, ending in free terminations, constitute so large a bulk of the grey matter, to the interfibrillar matrix which forms a still larger proportion of it, and to the apolar cells, which if visible fibres are the only channels of communication, are anomalous superfluities.

The conception of the physical condition of the grey matter that we have now reached is this. It is composed of complex molecules whose atomic constitution is such that they readily undergo internal changes without being disintegrated. These changes are of two main orders. One, which occurs on the impact of a force, consists in the fall of the atoms into more stable positions, and is accompanied by a liberation of force from the molecule. The other is the reverse change, and consists in the restoration of the fallen atoms to their previous positions, and is accompanied by a storage of force in the molecule. An illustration of these changes may be found in the waves of movement that pass over a cornfield under the pressure of the wind. Each stalk of wheat bends down under the impact of the wind into an inclined position, and in doing so strikes against other stalks and liberates the force which we recognize by rustling sound. No sooner is the bending complete, than

the elasticity of the stalk asserts itself and the ear rises into the erect position, ready for the next gust of wind to bend it down again. The two movements occur in alternation, one under the influence of an external force, the other under the operation of intrinsic forces when the outside force has ceased to act. The greater the impinging force, the greater the depression of the ear. The more stalks that are affected, the wider the wave; the more each stalk is bent, the deeper the wave. Finally the wave of movement passes from one end of the field to the other without any redistribution of the stalks of corn.

All the molecules of the grey matter have not the same susceptibility to these changes, or, what is more probable, the molecules are not equally susceptible in all positions with regard to the disturbing force. If we imagine the stalks of corn to be oval in section, it will be evident that they will bend more readily to a wind in the direction of the short axis of the oval than to one in the long axis. If there be much difference between the axes, the stalks will not bend at all in the direction of the long axis; and if each gust of wind which strikes them on either side of the long axis is able to twist them slightly, so as to turn them more broadside on to a similarly directed gust, these properties will have a still more extended analogy to those of the molecules of the grey matter.

Such being the structure of the grey matter, we have now to get a clear conception of its function in physical terms. To do so, we must imagine the structure thus described as permeated continually and throughout by innumerable waves of discharge. We must recognize that there is a circulation of force in the body, just as there is a circulation of matter. The latter takes place mainly in the blood-vessels, the former mainly in the nerves; and the two are in many respects comparable. Along every nerve-fibre gushes of force continually succeed one another, as waves of blood pass through the arteries. Every nerve-cell is, as it were, a heart which receives the current flowing into it, and discharges it with increased impetus. Every tract of matrix is comparable with the intercapillary tissue. As the blood plasma soaks through such tissue in no constant direction, without definite boundary and with inconsiderable impetus, so the ner-

vous discharge diffuses itself through the matrix of the grey matter in no definite channel, and with an impetus inferior to that which obtains in the nerves. As through the intercapillary tissue new capillaries are formed by protrusions from the old, so in the matrix of the grey matter new fibres are formed by protrusions from the old. Not only in the grey matter do these currents of force circulate; they are carried by the nerves to the uttermost parts of the body. There is scarcely a recess or nook of the organism to which they do not penetrate. While by far the greatest quantity is draughted into the muscles, large supplies go to all the tissues, where their access regulates those molecular disintegrations, rearrangements, and integrations that constitute nutrition and waste, secretion and excretion. The force thus expended is continually being renewed from the store that accumulates in the nerve-cells in the intervals of their activity. But however highly charged a nerve-cell may be, it never discharges spontaneously. However unstable its molecules, some force, even if infinitesimal, is needed to set the process going. Spontaneous movement, in the sense of movement originating without previous movement, is unknown—is, as far as we know the constitution of the universe, impossible. It implies a creation. We have to account, then, for the first shock that sets all the movement going. If we trace a discharge back from fibre to cell and from cell to fibre, we must always come at last to currents that arrive from outside the grey matter along the nerves that are called sensory or afferent. There is no other possible source for the first shake that sets all the movement going. And when we trace this afferent fibre to its extremity, we always find that it rises somewhere on the physiological surface of the organism—somewhere where forces from the outside world can act upon it and originate the currents which, when they arrive at the grey matter, acts as exploders. Further, we find that from all parts of the surface of the body nerve-fibres start and travel inwards to the great central masses of grey matter. And, furthermore, we find that several parts of the surface are especially modified, so as to collect and transmit to these nerves extremely slight disturbances arriving at the surface; such are the organs of special sense. To complete our conception of the physical func-

tion of the nervous system, we must therefore picture to ourselves waves of force starting from all parts of the surface of the organism, and converging towards the great central masses of grey matter. Here they are sparse and feeble, there they are stronger and more numerous; and from special areas, such as the retina and the internal ear, they run in powerful currents. Arriving at the grey matter, these currents join in and reinforce the general molecular turmoil which goes on there; and which eventuates in far more powerful currents that are continually distributed to the rest of the organism. The greater part of these outgoing currents are supplied to the muscles, and are supplied, as has been said, continually. So long as the muscles are at rest, the currents reach them in sufficient amount to maintain only that incipient contraction which we call their tone; but that even this is continually varying in amount is shown by the success of the muscle-readers, who can discriminate varying shades of muscular tension which are unknown to the individual in whom they occur. From time to time stronger draughts of force issuing from the grey matter reach the muscles in sufficient quantity to initiate the contractions by which our movements are made. Thus, partly as mechanical move-

ment, partly as heat and other forms of molecular motion, the force accumulated in the nerve-cells passes out of the organism, and the redistribution, so far as the organism is concerned, is complete.

In Memoriam.

DR. JAMES G. THOMAS.

The Executive Committee of the Ninth International Medical Congress announces, with great sorrow, the death of Dr. James G. Thomas, of Savannah, one of the General Committee of Organization.

Dr. Thomas took a deep interest in the success of the Congress, and, at a considerable sacrifice, came to Washington, November 29th, to attend the meeting for organization. While on the way he was seized with a violent chill, and on his arrival at once took to his bed, from which he never again arose, the disease proving to be acute lobar pneumonia. He may be said to have lost his life in the service of the Congress, and it is an irreparable loss to us, as well as to his bereaved family and of his fellow citizens of Savannah and of Georgia.

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Original Articles.

THE COCA LEAF AND ITS ALKALOID.

By A. R. BAKER, M.D..

Professor of Ophthalmology and Otolology and Clinical Diseases of the Eye and Ear, in the Cleveland Polyclinic and Post-Graduate Medical School, Cleveland, Ohio.

An account of the coca shrub, its general appearance, manner of cultivation, mastication of coca leaves by Peruvian Indians, superstitions, historical and other facts connected with the coca, may be of some interest at this time.

The coca, (*Erythroxylon coca*) is a shrub about six feet high, with bright green leaves and white blossoms followed by small scarlet berries. It grows wild in the mountains of Peru and Bolivia, but the coca leaves of commerce are raised from the seed in garden beds. When about two feet in height they are transplanted to regularly laid out coca fields, about two feet apart. To give the necessary humidity and protection from the sun's rays, Indian corn is planted between the rows. When the leaves are ripe—that is, when bent they break—the gathering commences. In favorable localities and seasons there are three crops a year, viz.:—March, July and November. The leaves are stripped from the branches, a task usually performed by women. The cultivation of this plant gives employment to thousands, and the annual products of Peru and Bolivia in 1864 was estimated at two and a half million dollars. The leaves after being gathered, are spread out on coarse woolen blankets, and dried in the sun. The color of the leaves when dried is a pale green. Great care must be used in drying, for if the leaves imbibe any dampness they become dark colored, and then sell for a much lower price. The dried leaves are packed in woolen sacks, weighing from 75 to 150 lbs., and covered with fine sand. Great care is also necessary in the transportation, for if the leaves become damp, they are rendered useless.

The Indians masticate coca. Each individual carries a leathern pouch and a small flask gourd. The pouch contains a supply of coca leaves, and the gourd is filled with pulverized unslaked lime. Usually, four times daily the Indian stops his labor to masticate coca; and is performed in the following manner: Some of the coca

leaves are chewed until they form a small ball. A small piece of wood, like a toothpick, dampened, is thrust into the gourd; when drawn out, a small portion of the powdered lime adheres to it. The ball of masticated coca leaves, is, whilst still in the mouth, punctured with the slip of wood, until the lime mixing with it gives it the proper relish, and the abundant flow of saliva thus excited, swallowed. In some places the Indians use, instead of unslaked lime, a preparation of the pungent ashes of the quinna. The betel-nut is used in a somewhat similar manner by the East Indians. It has been estimated that eight millions of the human family use coca leaves in this manner, consuming thirty million pounds annually.

The coca plant is regarded as something sacred and mysterious by the Peruvian Indians, and always sustained an important place in the religion of the Incas. In all religious and warlike ceremonies it was introduced to produce smoke. During divine worship the priest chewed coca leaves, and it was believed that the favor of the gods could not be propitiated without them. It was believed that any business undertaken without the benediction of coca leaves could not prosper, and to the shrub itself worship was rendered. Although subjected to the influences of Christianity for more than three hundred years, we find traces of this deep-rooted idolatry everywhere. The excavators in the mines throw masticated coca on the hard veins of metal, in the belief that it softens the ore and renders it more easy to work. The Indians, even at the present time, put coca leaves into the mouths of dead persons to secure them a favorable reception on their entrance into another world. And when a Peruvian Indian on a journey falls in with a mummy, he, with timid reverence, presents it with some coca leaves as a pious offering.

Soon after the conquest of Peru, when the Spaniards treated the Indians and all their customs with contempt, coca became an object of aversion by the whites. The reverence rendered by the natives to the coca plant induced the Spaniards to believe that it possessed some demoniacal influence. The officers of the government and the clergy therefore endeavored by all possible means to extirpate its use. In the second Council held at Lima in 1567 coca was described as a "worthless object fitted for the misuse and superstition of the Indians,"

and a royal decree of Oct. 18, 1567, expressly declares that the notions entertained by the natives that coca gives them strength is an "illusion of the devil."

The Peruvian mine-owners were the first to discover the importance of coca in assisting the Indians to perform their excessive labor; and they, together with the plantation owners, became the most earnest defenders of coca. As a result, in defiance of royal and ecclesiastical opposition, its use increased rather than diminished. One of its earliest advocates was the Jesuit Don Antonio Julien, who laments that coca is not introduced into Europe instead of tea and coffee. In the year 1793 Dr. Don Pedro Nolesco Crespo pointed out the important advantages that would be derived from the use of the coca leaves if introduced into the European navies.

The flavor of coca is not unpleasant, it is slightly bitter, aromatic, and somewhat similar to green tea. All who masticate coca have a very bad breath, *pale lips and gums*, greenish and stumpy teeth, and an ugly black mark at the angles of the mouth. An inveterate *coquero*, or coca chewer, can always be known by his unsteady gait, yellow skin, dim sunken eyes, quivering lips, and general apathy, all of which testify to the baneful effects of coca juice when taken in excess.

All mountain Indians consume more or less coca, and find it of undoubted assistance in climbing the Andes, especially at high altitudes. Owners of mines and plantations allow laborers to suspend their work for a quarter of an hour three times daily, for the *chaccar*. He who becomes addicted to the coca habit finds it almost impossible to relinquish it.

Dr. J. J. Van Tschudi in his "Journal of Travel in Peru," during the years 1838-1842, and to whom I am indebted for most of this article, says: "The operation of coca is similar to that of narcotics administered in small doses. Its effects may be compared to those produced by the thorn apple, rather than to those arising from opium. * * I may mention one circumstance attending the use of coca which appears hitherto to have escaped notice. It is that after the mastication of a great quantity of coca, the eye seems unable to bear light, and there is a marked distension of the pupil. I have also observed this peculiarity of the eye in one who had drunk a strong extract of the infusion of coca

leaves." Dr. Von Tschudi is undoubtedly entitled to the credit of first observing the mydriatic effect of coca.

It is a well known fact confirmed by long observation and experience that Indians who regularly chew coca require but little food, and go through excessive labor with apparent ease. "That coca is in the highest degree nutritive is a fact beyond dispute." The incredible fatigues of the Peruvian infantry, with little or no food except the regular use of coca, the laborious toil of the Indian miners, kept up under similar circumstances for years, certainly afford sufficient ground for attributing to the coca leaves not a quality of mere temporary stimulus, but a powerful nutritive principle."

Of the great power of the Indians in enduring fatigue, with no other sustenance than coca, the following is an example. A Cholo Indian was employed by Dr. Von Tschudi in very laborious digging. During five days and nights he took only two hours sleep nightly, and tasted no food. He regularly, at intervals of two hours, masticated about half an ounce of coca leaves. At the end of this time he accompanied the Dr. on a journey of sixty or seventy miles across the mountains. Though on foot, he kept pace with the Dr.'s mule, only stopping occasionally for *chocar*. The church records at Lima show that many of these Indians who have chewed coca daily since boyhood live to the age of 120 and 130 years.

The alkaloid cocaine was discovered by Niemann in 1855. Its chemical formula is $C_{17}H_{21}NO_4$, and its physiological action is very similar to that of caffeine, theine, guaranine and theobromine. It is somewhat interesting to note that the active principle of tea, coffee, chocolate, etc., is very much the same as the active principle of coca, both in physiological action and chemical reaction. It has been suggested that some of these principles may have anesthetic properties.

To Dr. Noyes of New York belongs the credit of introducing the drug to the notice of the profession in the United States, as a local anesthetic in ophthalmic practice, although it has been used several years in Germany as a topical application to the mucous membranes of the nose, throat and larynx. While I was in Vienna, during the winter of 1882-3, it was being used by the laryngoscopists quite extensively to obtund

the sensibility of the pharynx during laryngoscopic examinations.

My experience as to the local anesthetic properties of cocaine goes to support that of other observers. I find that in a few minutes after instilling a few drops of a four per cent aqueous solution into the conjunctival sac, I am able to introduce an eye speculum with absolutely no pain. I am able to pinch up the conjunctiva with the fixation forceps without the knowledge of the patient. But when the deeper structures are touched, I still find considerable sensibility to pain.

My first case of cataract extraction with cocaine, Nellie D., aged 83, I instilled one drop of a four per cent solution of cocaine. Every three minutes I instilled another drop, and after five drops had been introduced in this manner, or fifteen minutes after the first instillation, I introduced the speculum, fixed the eye, and made Von Graefe's linear incision with absolutely no evidence of pain. When I took hold of the iris, however, to make the iridectomy, there was evidence of fully as much pain as at the same stage of the operation of extraction without an anesthetic, and which I believe to be the most painful part of a cataract extraction. After the iridectomy was completed I proceeded to introduce the cystotome and break up the capsule and deliver the lens, with no further evidence of pain. I may say that I have found the cornea somewhat more firm after the use of cocaine, and find the knife does not cut its way through it quite so readily as without the local anesthetic. Whether the use of cocaine will have any influence on the reparative functions of the cornea, either for better or worse, my experience is not yet extensive enough to say.

In strabismus operations I have been able to make the incision through the conjunctiva and Tenon's capsule with no pain, but have always had considerable pain when taking the tendon upon the strabismus hook. In one case, a boy of about eight years of age, I was compelled to resort to ether before completing the operation.

For removing foreign bodies from the cornea I have found cocaine almost indispensable. I have been able to remove pieces of steel or emery from a number of cases, without the least pain to the patient or inconvenience to myself. In slitting up the canaliculus and passing lachrymal probes,

I have found very great relief, although not relieving pain entirely.

I have performed several plastic operations on the lids with indifferent results. I have instilled large quantities into the conjunctival sac, and injected considerable of a four per cent solution of cocaine into the skin along line of incision with hypodermic syringe, but have not been able to obtund sensibility entirely, although with considerable relief to pain, especially when involving the mucous membrane.

I have used cocaine on the mucous membrane of a number of nose and throat patients with some relief of pain. I have had only a four per cent solution at my control. It will be necessary to use a fifteen or twenty per cent solution to get the best result in these cases.

Aside from all extravagant claims made by coca enthusiasts, the discovery of the anesthetic properties of this drug is destined to mark another mile-stone along the rapid strides of ophthalmological progress. But like all other new remedies it will have to be studied carefully, and the exact indications and contra-indications for its use determined by the patient study and observation of a large number of cases by unprejudiced investigators intent only on finding out its true value, and assigning its place in the physician's armamentarium, for the relief of suffering, the correction of deformities, and the improvement of vision.

I will add one more case in which I have used cocaine recently, as I have seen no notice of its use in a similar condition. A very intelligent physician of robust health, and good personal and family history, contracted a granular ophthalmia of left eye from a patient, some years since. He was somewhat careless about treatment for some time, but for the past two years has been almost constantly under treatment of leading Eastern or Western oculists, for granular lids with slight pannus and a very painful ulcer of cornea. The pain at times being almost unbearable, he has been compelled to give up entirely a lucrative practice. He has subjected himself to all manner of treatment, including jequirity, with no apparent benefit. He came to me some time since and suggested the use of cocaine. I told him I thought it would do no harm to give it a trial. The effect in relieving pain was almost magical, and up to the present time has continued to prove most beneficial. Not only has the pain been re-

lieved, but at the same time the general appearance of the eye has improved decidedly. I am watching the case with some interest. We are using at present a two per cent aqueous solution of cocaine dropped into the eye three or four times daily.

THE EFFICACY OF PELLETIERINE IN THE TREATMENT OF TAPE-WORM, WITH THE REPORT OF SEVEN CASES.

A Paper read before the Academy of Medicine
December 15, 1884.

By H. WILFERT, M. D., Cincinnati, O.,
Physician to St. Mary's Hospital, ass't to the
Chair of Materia Medica, Medical College of
Ohio.

The object of the report of these cases is to show that we have in pelletierine a safe and reliable remedy for the removal of tape-worm. All cases here reported were treated alike. The preliminary measures taken were to omit food for one day, to administer the same evening a cathartic, castor oil or a saline cathartic, and the morning following to give the anthelmintic and the compound tinct. of jalap thirty minutes afterwards. Small quantities of milk, instead of complete abstinence, were frequently allowed to those persons that were desirous of taking food. The compound tinct. of jalap, which we are recommended to use by Tanret, is not official in the United States Pharmacopœia. The french formula according to Johnson's Medical Formulary is the following:

Take of Jalap - - 8 parts.
Turpeth - - 1 "
Scammony - - 2 "
Alcohol, 60 per cent. - - 96 "

Macerate ten days and filter.

Dose: $\frac{1}{2}$ to 2 drachms.

I have substituted for the above three drachms of fld. ext. of senna, and two drachms of fld. ext. of jalap, with sufficient syrup to make one ounce. The syrup can be omitted, as the medicine is to be given in sweetened water. Nausea and vomiting can be arrested by ice and lemon juice. I find that it acts quickly and causes no griping. I believe that the jalap has some stupefying effect on the worm, and give it in preference to any other cathartic. Every case was examined microscopically, being assisted in the examinations by an able microscopist Dr. Krouse.

Five of the specimens were of the variety of *tænia medio canellata*, one of *tænia solium*, found in the little boy.

Dizziness or vertigo was noticed in all the cases, coming on within five to thirty minutes after the remedy was taken, lasting from one to four hours. The dizziness however diminishes as soon as the cathartic begins to act.

The pulse in some of the cases was slightly increased, but I have never found any elevation in the temperature.

In no case was the medicine administered unless the presence of the worm was assured.

CASE 1. F. W. æt. 22, a healthy and robust German, tinner by occupation, had for about eight or nine months the following symptoms: headache, dizziness and vertigo, frequent eructation of gas, bad taste in the mouth with intervening diarrhœa and constipation. On July the 10th, 1882 he presented himself at my office with segments of tape-worm, which he first observed a few days previously. Two days later Tanret's pelletierine with the compound tinct. of jalap was administered, and the worm was expelled in about two hours.

The patient had no recurrence, and is rid of the symptoms of which he had previously suffered.

CASE 2. J. R. æt. 34, German, butcher. General health good. Had been afflicted with tape-worm for about one year, and taken remedies for the removal of the same on three different occasions without success.

On April 22, 1883 I administered one ounce of pelletierine with the cathartic, and in less than two hours the worm with its head was passed. The patient has had no recurrence.

CASE 3. Was that of a boy, 5 years old, a patient of Dr. Jones, of Ludlow, Ky.

The doctor found the patient in very delicate health. He had suffered intensely for about four months with colic, restlessness, and anemia existed notwithstanding a good appetite.

The patient had already been treated for tape-worm by two physicians in Somerset, Ky.

On Aug. 20, 1883, in consultation with Dr. Jones, half of the adult dose of pelletierine and the cathartic was administered. The worm, which was a *tænia solium*, was passed in less time than one hour and a half. The patient has since had no symp-

tom of the previous complaint, and no recurrence of the parasite.

CASE 4. M. G., female, æt. 34, a domestic of a robust and healthy appearance. Has suffered with tape-worm for about two years and a half; has twice taken remedies, which she says on each occasion removed the worm, being so informed by her physicians.

On Jan. 10, 1884 I ordered one ounce of pelletierine, with the same amount of compound tinct. of jalap. The largest part of the worm was passed, but the head was not found. Two months later the same remedy was administered with the same unsuccessful result. I have since seen the lady, and am informed that she still notices segments of the worm in the stools. In this case I was not allowed to be present at the house to give the medicine, as it is my custom to do in all cases; and I was told that on each occasion she vomited a part of the remedy.

CASE 5. B. B. L. æt 40, insurance agent. Has always enjoyed good health, and would not have known that he was afflicted with tape-worm, had not his physician called his attention to it.

On Jan. 21, 1884, the tæniacide remedy with the cathartic was administered which expelled the worm in about two hours. No other remedy had been used in this case, and the patient has up to this time no recurrence.

CASE 6. J. W. æt. 55, a farmer, has enjoyed good health up to three years ago. He was first informed by his physician that he had dyspepsia, and has taken medicine for a long time. One day a friend of his thought that he might have tape-worm and he came to me for treatment. As he had never passed segments, or at least never noticed any in his stool, I ordered a cathartic with the directions to examine the stool. The segments were produced and the remedies administered July '84 with success. No recurrence.

CASE 7. G. B. H. æt. 25, american, salesman, a healthy person. Had been afflicted with tænia for about two years and a half, and during that time had on nine different occasions taken remedies to expel the worm. The last prescription which he received from his physician called for two ounces of spts. of turpentine with the same amount of castor oil. Half the quantity to be taken at one dose. He used the medicine without success.

Dec. 5, 1884, I administered one ounce of pelletierine with the cathartic, and in two hours and fifteen minutes the entire worm was expelled.

Dujardin Beaumetz in his *Lecons de Clinique Therapeutique*, 1883, vol. 1, page 773 says the following:

Tanret found four alkaloids in pomegranate, to which he gave the name pelletierines, in honor of the chemist Pelletier to whom we owe the discovery of quinine. To distinguish the different pelletierines, he named them pelletierine, iso-pelletierine, pseudo-pelletierine and methyl-pelletierine. Only the first two are employed as tæniacides. Both myself and my pupil Dr. Rochemure have experimented with these alkaloids on animals and on man. Those experiments have shown us that the pelletierines produce similar toxic effects in animals, the only difference being the intensity of the phenomena. In this regard pelletierine stands first, then comes iso-pelletierine, pseudo-pelletierine and methyl-pelletierine. I will add a few figures to show the difference in their toxic effects.

To cause rapid death in a rabbit required 17 centigrammes of pelletierine, 20 of iso-pelletierine and 40 to 50 of pseudo or methyl pelletierine.

One drop of a 10 per cent. solution of pelletierine was sufficient to kill a frog in a comparatively short time; and a leech when plunged into a one-fifth per cent. solution of the same alkaloid died at the end of ten minutes.

A careful examination of the toxic effects and of experiments on frogs show that pelletierine acts like curare. It paralyzes the peripheral extremities of motor nerves while it leaves sensation intact.

In the beginning of our experience we united the four alkaloids in the form of sulphates, and spite a very marked success, we observed a certain degree of failure. I then requested Tanret to add tannin to the preparation in order to bring it as nearly as possible to the state of the alkaloids in the pomegranate bark which contains tannin in large quantities. From that time we administered 30 centigrammes sulphate of pelletierine and iso pelletierine in a solution containing 50 centigrammes of tannin. It is this mixture which we improperly term tannate of pelletierine.

Which of these different alkaloids possesses anthelmintic properties? To that

question Beranger Feraud has given a positive answer. He determined experimentally that while methyl-pelletierine and pseudo-pelletierine never cause the expulsion of the tænia even in large doses, pelletierine and iso-pelletierine either separately or together will always cause an expulsion of the worm.

As you see, the question, thanks to these various works, is becoming more and more narrow. The presence of tannin is already a step in the way of progress.

Thanks to the researches of Beranger Feraud we may exclude the methyl and pseudo pelletierine as not containing tæniafuge properties.

We now come to the question of a purgative. I thought at the beginning of my researches that it would be well to unite the purgative with the pelletierine. I united in one mixture german brandy sweetened with syrup of senna, and a mixture with sulphate of pelletierine and tannin. The result obtained did not confirm my hopes, and I came finally to the administration of a purgative half hour after the pelletierine was administered. I consider german brandy as the best purgative in such cases, because the presence of tannin on one side, and the paralyzing effect of the alkaloid on the muscular fibres of the intestines on the other, opposes the effect of the purgative. Nevertheless, I know that good results are obtained from castor oil, from 30 to 60 gramme doses. Beranger Feraud prefers the infusion of senna. Whatever purgative you may have chosen, give it at the latest, one-half hour after the pelletierine. If you adopt the following rule in administration you will obtain the almost certain expulsion of the worm. The evening preceding let the patient take a light purgative, and take only a light supper. The following morning give on an empty stomach thirty centigramme sulphate of pelletierine and iso pelletierine in a solution containing 50 centigrammes of tannin. Ten minutes later give a glass of water, and at the end of three quarters of an hour a purgative. Advise the patient to pass the rectal contents in a vessel of warm water. Shortly after taking the medicine the patient is seized with vertigo, and the tænia is passed about three quarters of an hour after administration of the remedy. In case of failure, that is, the worm passes away without the head, wait two or three months before again resorting

to the remedy. The same rule should be followed whatever tæniafuge has been taken. Since we have carefully followed this course of treatment we have had numerous successes. In nine out of ten cases we succeed in finding the head. I can therefore affirm that pelletierine is an excellent remedy for tænia, if it be not the best. This statement is made in reference to adults. Until more is known about it I would not venture to recommend it in children.

CINCINNATI HOSPITAL.

THREE CASES IN THE MEDICAL WARDS.

Reported by Albert V. Phelps, Resident Physician.

The three cases forming the subject of this report were admitted to the Cincinnati Hospital for treatment between the dates Nov. 23rd, and Dec. 3rd, 1884. Two were discharged Dec. 6th, and one still remains in the ward. The first two cases were in the department in the charge of Dr. J. C. Mackenzie, the third in the care of Dr. Jno. A. Murphy, the cases collectively being interesting because presenting one or two peculiar symptoms in common, and because all were under observation at the same time.

CASE I. Carl L., a miller, stated that illness appeared three days before admission; that it commenced with headache, malaise and a chill, followed by fever. *Shortly after the occurrence of the chill his face became much swollen, so much so immediately in the neighborhood of the eyes as to almost close them.*

This swelling of his face was present when patient was first examined; had much the appearance of oedema in acute Bright's disease, but the face instead of being pale was deeply flushed, besides there was absolutely no oedema of other parts of the body, nor did any develop in the course of the disease.

On examining his eyes, the entire conjunctiva of each was seen to be deeply injected; to have a peculiar oedematous jelly-like appearance without the presence of the least discharge. The patients urine was immediately examined, and from the time of admission until that of discharge although examined every day or two, no albumen could be detected by heat, nitric acid, picric acid, or the brine test.

At first its sp. gr. was high, (1030), its

reaction very acid, the urates abundant, but later it assumed the usual conditions.

From date of admission until Dec. 1st, a fever was present, having an irregular rambling curve, twice reaching 102° , and once 103.4° , but usually less than 101° .

There was anorexia, and the thirst usually attendant upon fever, besides a marked constipation, having been seven days without a stool.

An enema was given producing a discharge of fæces having the usual appearance, besides this dil. muriatic acid 20 drops three times a day was the only treatment medicinally.

The swelling of the face and injection of the eyes gradually subsided, but did not entirely disappear until the normal temperature was established.

CASE 2. Gave the history of and presented almost the same conditions found in the first.

Emil S., a baker, said he had been sick for one week, had had headache and malaise; felt chilly but had no distinct chill; later fever developed and persisted. At the time of the appearance of his illness his face and eyes commenced to swell, and when admitted the condition of face and eyes described was even more marked than in the other man. He had no stool until given an enema which was on the ninth day of his constipation in and out of the hospital.

The urine had identically the conditions found in the first case.

The temperature curve in this man was more regular, it for three days being elevated a degree higher each day, and one degree higher in the evening than in the morning.

On the evening of the third day it reached 103.4° , and during the next four days fell each day a degree, the morning and evening temperature being the same, the fourth day the normal being established.

Some swelling of his eyes remained one or two days after the fever left.

The first two patients had been working in flour and meal, but the third was a butcher. He had headache, and malaise, and five days before coming to the house had a severe chill, went to bed and in the morning his face and eyes were much swollen.

The constipation, conditions of urine and fever were present in this case as in the others.

The disease from which these patients were suffering is evidently self-limited, as nothing was given any of them except the dilute muriatic acid.

The duration varied but little in the three cases, the first being sick thirteen days, the second eleven days, and the third twelve days.

There was present none of the symptoms of typhoid except the fever, and that was as far removed from the typhoid curve as possible, while it was also unlike either intermittent or remittent fever.

Most of the cases ordinarily called febricula occurring in the house are less than ten days in duration, while none of those observed this year had the peculiar swollen condition of the face and eyes seen in these three cases.

The most careful search failed to discover either rational or physical evidence of any local inflammation to account for the fever.

THE LIBERATING OF THE RING FINGER, IN MUSICIANS.

DIVIDING THE ACCESSORY TENDONS OF THE EXTENSOR COMMUNIS DIGITORUM MUSCLE.

A Paper read before the Philadelphia County Medical Society, Nov. 12, 1884.

By WM. S. FORBES, M.D.,
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When the middle finger and the ring finger are brought down by the flexor muscles, and their balls are held down firmly against the keys of a musical instrument, as in performing on a piano, for the purpose of producing continuous sounds, and at the same time it should be necessary to extend and then to flex the ring finger in order to produce accompanying sounds, it will be found that in the still flexed position of the middle and little fingers, the ring finger can be but very slightly extended. Its complete extension, without operative interference, can only be brought about by long continued exertion in practice, when elongation of certain accessory, but restricting, tendons is made by nutritive change.

To explain the cause of the inability to extend at once, completely, this ring finger, and to demonstrate the way to remove this cause, by a surgical operation of simple moment, is the object of this paper.

the dorsal aspect of the metacarpal in man, dissection shows that the origin of the extensor communis digitorum muscle that goes to the ring finger is off a slip on either side, one of which joins the extensor tendon of the little finger and the other to join the extensor tendon of the little finger. These slips are known as the lateral vincula accessory tendons. Now, while the little and little fingers are held in a fixed position, these accessory tendons, in virtue of their attached extremities, in check the extending power of the ulnar fibres operating upon the tendon of the ring finger, and thus this finger is restricted in its function of extension to a limited degree.

These accessory tendons are sometimes found in one hand and not in the other. They exist more frequently in the right hand than in the left. Now and then the extensor tendon of the ring finger splits at point of departure of the accessory tendon, and then reuniting leaves a button-like appearance, and again these accessory tendons are entirely absent.

1857, Mr. J. D., a young musician and a performer on the piano, consulted me in regard to his inability to *lift up*, as he expressed it, the ring finger of his right hand while the middle and little fingers neighboring were held flexed on the plane of his piano.

This restriction did not exist in the ring finger of his left hand; with it he had no trouble. I explained to him the presence of the accessory tendons in his right hand, their restricting power, and told him of their probable absence in his left; they could be distinctly felt in his right hand, but could not be observed in the left.

At his desire I performed the operation of subcutaneous tenotomy on the tenth day of November of that year. An incision less than a quarter of an inch in length made through the skin and fascia just within the carpal articulation of the metacarpal bone of the ring finger, and above the radial accessory slip of his right hand parallel with, and on the radial aspect of the extensor tendon of the ring finger. A narrow, blunt-pointed bistoury placed on his incision, with its handle depressed, its blade flatwise, was carried beneath the accessory slip and down as far as just above and between the knuckles of the ring and middle fingers, where its

blunt point could be felt beneath the skin. The bistoury was now turned with its sharp edge towards the skin, and the middle finger strongly flexed and the ring finger extended, so as to make tense the accessory slip, when with a gentle sawing motion the slip was at once severed; the bistoury, turned flatwise, was now withdrawn through the same opening by which it entered. The accessory slip on the ulnar side of the extensor tendon of this ring finger was divided in a similar manner immediately afterwards by a distinct incision through the skin and fascia on the ulnar side of the extensor tendon of this finger. Not a quarter of a drachm of blood was lost in the two operations. A small piece of adhesive plaster was placed over each incision and a figure-of-8 bandage was carried around the wrist and hand, leaving the thumb free, and kept on for two days, when the patient was asked to perform on his piano in order to keep the cut extremities of the accessory tendons apart. A slight swelling of the parts existed for less than a week. The liberation of the ring finger was complete. The ball of the finger could be elevated an inch farther from the plane of the hand, and my patient expressed his gratification at the extended and great facility with which he could use this ring finger on the keys of his piano.

In 1881, Mr. Richard Zeckwehr, the accomplished professor and director of music in the Philadelphia Musical Academy called on me and asked me whether I could not cut these accessory tendons. He stated that if they could be cut in some of his students in music, that he was sure much time would be saved and their advancement in music greatly accelerated.

Mr. Zeckwehr had been well taught the anatomy of the hand, in Leipsic, where he was educated in music, and was well aware already of the restraining force of these tendons. His views were right, in my opinion. He brought to me a young man whose left ring finger was very much restricted and the tense accessory tendons could be distinctly felt. At the young man's desire I operated at once, and on dividing the tendons of the fingers he could lift this finger from the plane of the hand an inch higher than before the operation.

Since 1857 I have divided these accessory tendons for the purpose of liberating

the ring finger in fourteen persons, and in nine of these the operation was performed on the tendons of both hands at one sitting. I do not think at any one of these operations half a drachm of blood was lost. In not one of them did any accident follow the operation. The issue in all of them was successful.

In two persons who came to my office together, strangers from a distance, I performed this operation on the two hands of each of them in the presence of my friend, Dr. Addinell Hewson, Jr. These two patients said, with emphasis, that there was not only relief in using the ring finger, but there was also an absence of exertion, which, before the operation, was constant and forcible along the back of the forearm and hand.

It will be observed that in this operation the totality, the complete sum of the power, of the extensor tendon going to the ring finger is left unimpaired. Nor does the operation lessen in the least the power of the common extensor muscle to extend the neighboring fingers.

The question may be asked, then, Of what use are these accessory tendons in man? As far as I am capable of observing, they are entirely vestigial. Just as we may believe that the plantares are vestigial muscles.

This brings us to look into the comparative anatomy of these accessory tendons, and to examine the entire muscular anatomy of the hand. Prof. Owen thus writes, in regard to the flexor and extensor muscles in the hand of mammals: (1) "The deep and superficial flexors of the fingers are distinct, but a remnant of that blending which exists in most lower mammals may be seen in the short connecting tendon which, in the aye aye, passes from the ulnar belly of the 'flexor sublimis' to the division of the 'flexor profundus,' giving off the tendon to the middle fingers. The fleshy part of both flexors, but especially the deep one, is continued nearer to the hand in *Lemuridae*, and most other *Quadrumana*, than in man, thus enabling the muscles to continue their action as finger-benders when the hand itself is flexed. * * The 'flexor brevis,' the 'abductor,' the 'adductor' and 'opponens pollicis,' are present in the chimpanzee

and gorilla, as are likewise the 'extensor longus' and 'extensor brevis.' In the orang these muscles begin to be confounded; in most lower *Quadrumana* they are blended together. The homologue of the 'extensor indicis' of man bifurcates, and sends a tendon both to the index and medius digit; the homologue of the 'extensor minimi digiti' likewise splits, and sends a tendon also to the annularis; so that, while in man the index and minimus only have two extensor tendons, all four fingers have them in most *Quadrumana*. The hand is thereby the stronger as a suspensor of the body from a bough."

In all felines we find that, although lateral motion in the hand is restricted, flexion and extension are very forcibly made. Thus in the cat we find not only a common extensor, but also a proper extensor to the index, middle, ring and little fingers. The proper extensors to the index and to the little fingers have their analogues in man in the extensor indicis and the extensor minimi digiti. In man the common extensor tendon of the ring finger gives off lateral branches; in the cat it does not, for here we find a perfect additional organ. We may believe then that the accessory tendons, going off from the extensor tendon of the ring finger in man, are the vestigial remains of muscles which in the lower animals are developed and perfect organs.

The perception of pleasure in the equality of sounds is the principle of music. If the power of producing the equality of sounds is restricted by the vestigial accessory tendons, they should be divided, especially as this division is so easily accomplished.

I would divide them just as I would divide the tendon of the internal rectus in certain cases of squint, in order to extend the range of vision.

In examining the muscular anatomy of the hand, it will be found that flexion and extension are produced not only by those muscles which especially make these motions, but by all those muscles whose tendons pass beyond the radio-carpal articulation. Flexion of the wrist is produced by the radial and ulnar flexors of the carpus, and is aided by the flexors of the fingers, when the action of those muscles of the fingers is either completed or is opposed by any resistance, as when the over-extended hand is pressed against a

1 Owen. Comparative Anatomy and Physiology of Vertebrates, vol. iii, p. 53.

surface in pushing, or in the support of the body. Extension of the wrist, in a similar manner, is accomplished not only by the three muscles specially devoted to that function—the extensor carpi radialis longior and brevior, and the extensor ulnaris—but also by the extensors of the fingers.

To ensure the efficient action of the long extensor and flexor muscles of the fingers it is necessary that there should be simultaneous action of the flexors and extensors of the wrist respectively; for the wrist-joint must be fixed backwards by its extensors, in order that the long flexors of the fingers may act. And the wrist must be fixed forwards by its flexors, in order that the long extensors may act upon the fingers.

The flexor communis digitorum sublimis and the flexor profundus bend respectively the second and third phalanges of the fingers, while the extensor communis extends the *first phalanx*. The four lumbricales, on the other hand, and the seven interossei muscles have a double action, in consequence of their insertion into the lateral expansions of the extensor tendons, and some of the interossei directly into the base of the first phalanges. This action consists, first, in the flexion of the fingers at the metacarpo-phalangeal articulations, and, second, in extension of the second and third phalanges. The lumbricales and interossei, (2) therefore, are antagonists to both the long flexors and to the long extensor. This partial and combined action of the long and short muscles upon the fingers has been well known for some time, especially as regards the lumbricales; but it has recently been confirmed and elucidated, as regards the interossei, by the electro-physiological experiments and pathological observations of Duchene. (3)

With respect to the interossei, it is further to be observed that, besides being *flexors* of the *first* phalanges, by virtue of their insertion into the base of these bones, and at the same time *extensors* of the *second* and *third* phalanges, by virtue of their further insertion into the lateral expansions of the extensor tendons, they severally exercise an abducting or adducting action on certain fingers, or direct them away from or towards the middle line of the hand, according to the places of their respective

insertions; and thus the four dorsal interossei are abductors of the index, middle and ring fingers, and the three palmar interossei are adductors of the index, ring and little fingers respectively.

DISCUSSION.

Reported by G. BENTON MASSEY, M.D.

DR. JOHN B. ROBERTS, in opening the discussion, said: I have been greatly interested in hearing the account of the operation given. Since student days it has been in my mind, but I never happened to be called on to perform it. It was then taught as advisable and looked on as justifiable, and I now know that this suggestion must have come from Dr. Forbes. I have long tried to figure out a reason for these slips, and the disposition has been to regard them as analogues of structures found in lower animals, as Dr. Forbes holds. We have special extensors for the index and little fingers, and I have seen on rare occasions a special extensor for the middle finger, but I never heard of a special extensor for the ring finger.

The remarks on white fibrous tissue are interesting. The actions of this tissue are most important in holding the various organs of the body in place. It is at times, however, a surgical disadvantage, as, for instance, in the case of abscesses, where the pus being confined by the density of this tissue, does harm by more or less extensive burrowing. In binding down tumors, and thus causing pain by pressure upon the nerves, and by causing suffocative pressure in bronchocele, it also demands operative interference. We can often relieve pain and asphyxia caused by pressure of this tissue by free incisions made subcutaneously or openly.

I shall be glad to hear further as to the time test of these cases, and also as to whether the uncut tendon is made more pliable by actual stretching after long months of piano practice. It would seem to me that there was no stretching of this tendon possible, but that practice caused only a lateral movement of the contiguous tendons, and thus permitted a greater freedom of motion in the finger. If this increased motion is possible, then how much time is gained by the operation? The operation itself must be a very simple one, and there should be very little danger of the tendinous bands uniting again.

DR. H. A. SLOCUM: As there will probably be many ladies undergoing the opera-

2 Quain's Anatomy.

3 Duchene, "Physiologie des Mouvements."

tion, a pertinent question is: How much of a scar does it leave?

DR. DE FOREST WILLARD: Some years since I heard that this operation had been performed for pianists, but did not know the exact details of results desired until this evening. The only danger would be that too deep a cut might divide fibres of the dorsal interossei, muscles which are of especial service to the musician, since extension and flexion of the first phalanx are important actions. These accessory tendons, as seen in the dissecting room, are sometimes variable in their position, but the operation seems simple, and from the excellent results which I am accustomed to secure by subcutaneous divisions of fasciæ and tendons, I am inclined to favor the procedure of the lecturer.

DR. SHAKESPEARE: In connection with Dr. Forbes' incidental reference to Wickersheimer's preservative fluid, I would like to ask him if he has had any success in its use. I have myself made trial of it, as made here, after the formula published by the Government, and have in every instance failed to get any good results when using the fluid as an injection. I do not know of any successful results out of Germany, and do know of many failures. The suggestion has been made that there is a secret yet held back by the inventor. On the contrary, with the fluid for immersion, moderately successful results have not been very difficult to obtain.

DR. A. H. SMITH: This operation and the advantages to be gained by a free use of the finger are both altogether new to me. As Prof. Zeckwehr is present I hope he will state its value to the pupil and whether it is better than the ordinary ring and elastic cords used by beginners.

DR. O'HARRA: I think it odd that no mention has been made of females being operated on for this condition. Is it possible that a vestigial condition remains with men, and woman does not share it? There are so many more women than men playing on the piano, it would appear that the ring finger was freer with them.

PROF. ZECKWEHR, speaking by request of the Chair, said: Pianists find great difficulty in performing, owing to their inability to extend the ring-finger. It takes a long time to remedy the difficulty to any extent by practice. With the palm down it can be raised but a short distance. The natural strength of this finger is not so

great as that of the others. My pupil, on whom Dr. Forbes operated, gained in a quarter of an hour what I had not accomplished in twenty-five years' practice; before the operation he could raise the finger a quarter of an inch—after if, an inch and a quarter—a gain of a whole inch in a few minutes. I surely think the time gained a great advantage to piano pupils.

DR. CARL SEILER: I am not a practical musician, but would ask if there was a great improvement in touch to be gained by this operation. I have noticed in what might be called one school of musicians that the motion from the fingers was taught, while another taught motion from the wrist. The question is æsthetic. Can we gain a better touch by severing these bonds?

PROF. ZECKWEHR: I never heard of the method of playing from the wrist. All musicians play from the knuckle-joints, keeping perfectly quiet wrists.

DR. SEILER: Many musicians play from the wrist, and by that motion harshness is done away with, and greater flexibility attained.

DR. BLACKWOOD: In organ playing lateral movement of the fingers is necessary as well as extension. Does the operation increase the abduction and adduction movements? Experience has shown me the advantage of such mobility, especially when the same hand is occupied in playing chords on two different manuals at one time, as, for instance, on the 1st, 3d and 5th on the great and choir.

DR. FORBES, in closing the discussion, said: In regard to the scar, I examined one of the patients to-day, and the scar could scarcely be seen. It should be distinctly understood that the cut necessary for this operation should be but little longer than the width of a match. By means of a blunt knife to cut the tendon, and making the tendon tense, nothing else need be cut. From the first I performed this operation with a tenotome, but I received a letter from a gentleman at a distance, who said he had cut his own tendons with a razor.

Dr. Willard spoke of cutting the dorsal interosseous muscle. If he does not carry the incision beneath the investing sheath he will not touch the muscle. You may cut the nerve to be found here next to the skin, but a dull knife avoids this by *showing* the nerve before it.

Dr. Allen spoke of encountering membranous bands on the tendon. I would cut tendons and bands at once. The patient should play at once on the piano after the operation, and if any bands remain they should be cut by reintroducing the knife. Both tendons are cut at one sitting.

Dr. O'Harra was struck by the absence of the mention of women, considering their great activity as pianists. In fact, one patient alluded to was a woman. It may be that their joints partake of the greater mobility of their nature, and are less rigid. I have certainly found that these ligaments do not obstruct their playing on the piano so much as in men.

If the principle in music depends on the equality of sound, and these bands interfere with the development of this equality, I see no reason why they should not be severed. The operation, of course, can not lessen lateral motion.

As to elongation of tendons, this can be only by nutritive change. There is no elasticity in white fibrous tissue; sometimes it appears to elongate, but that is merely by lateral movement of fibres. This rigidity is the greatest value of white fibrous tissue.

In regard to Wickersheimer's fluid, I have had a great deal of difficulty in its use, and thought he had used some other ingredient than that imported, not mentioned when he sold his secret to the naval officers representing the U. S. Government. If, however, it is slowly injected in the preparation previously immersed in water, and then immersed in the prepared fluid and kept entirely immersed, sometimes it does well. The best quality of glycerine should be used.

DISINFECTION BY THE FUMES OF SULPHIDE OF CARBON. — The combustion of this fluid being accompanied by the formation of considerable quantities of sulphurous and carbonic acids, M. P. Vigier has recently recommended its use for the disinfection of rooms and hospitals. Two or three litres of sulphide of carbon were placed in an earthenware jug and ignited. The room is then closed as hermetically as possible, and soon becomes filled by the fumes, which in all probability possess powerful germicide properties. Exact experiments have, however, not yet been made. — *London Med. Record.*

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Cincinnati, December 27, 1884.

Correspondence.

FOREIGN CORRESPONDENCE.

BIRMINGHAM, ENG., Dec. 1st, 1884.

Editor Lancet and Clinic:

To keep good my promise to write an occasional letter for your valuable Journal during my stay abroad, I will write a few lines from this peculiar old English city, the home of Mr. Lawson Tait. I came here especially to see some of his brilliant work in abdominal surgery, and must say that I am quite satisfied with the number of cases and his method of work. He makes from six to ten abdominal sections a week. Of this number there may not be more than one large ovarian tumor. The rest being for the removal of the uterine appendages for the relief of the hemorrhage in uterine myoma, with an occasional hysterectomy; and the removal of diseased uterine appendages where there exists chronic inflammation of the ovaries, chronic inflammation and occlusion of the tubes, the latter being occluded and distended by serum, pus, or blood.

At the present time he is operating upon a great many of these cases. Up to this date he has operated upon more than one hundred and fifty, with but two deaths, and the recovery in all the rest have been complete and permanent.

He strongly urges the removal of the uterine appendages in all cases of uterine myoma requiring interference, where the

tumor does not reach above the umbilicus; before they should be subjected to hysterectomy, which is, of course, a very much more serious and dangerous operation. But if the tumor should be a large one, reaching several inches above the umbilicus, then he advises hysterectomy.

I will give a short description and history of a hysterectomy made by him:

Nov. 13th. The woman was 40 years old; says she has been aware of the existence of a tumor for about five years. At present it fills the entire lower part of the abdominal cavity and extends some three inches above the umbilicus. It has grown rapidly for the past year. She is very anæmic from frequent hemorrhage.

The incision required to remove the tumor extended some distance above the umbilicus. After turning the tumor out of the abdominal cavity, and while it was supported by his assistant, he immediately crowded eight or ten large sponges into the abdominal cavity entirely filling it. These served two purposes, to prevent the escape of the intestines and the entrance of blood into the cavity at the time the tumor was cut away. He now applied his circular wire clamp below the ovaries and cut away the tumor. This was done with some difficulty owing to its density. During the time he was cutting through the stump of the tumor, fully two pints of blood flowed from it, but as he had the abdomen well packed with sponges, but little, if any, entered that cavity. He now inserted one stitch at the lower end of the incision; below the pedicle, and two above it; using very thick and strong silk. But only tied the two above the pedicle. He next inserted eight stitches at the upper end of the incision, using thinner silk, for these stitches, and tied these. There yet remained an opening into the abdomen four inches in length through which he now removed all the sponges and cleansed the cavity, and then closed this opening. He now had the single stitch below the pedicle to tie, he had inserted the thread in such a manner that when he tied this last and most important stitch it would put the abdominal wall on a stretch around the pedicle, and as he turned the peritoneal surfaces of the walls to that of the pedicle they would soon unite and thus close the abdominal cavity from the discharge from the sloughing of the stump.

The tumor when examined consisted of

the uterus, amputated just above neck, ovaries and tubes. The dressing was only a little dry lint, packed around the stump, and a small pad of cotton, and a bandage over all. She was put to bed, in very good condition, but for the first four days she had many ups and downs, but finally got right, and has been improving gradually each day since the morning of the fifth. She is now thoroughly convalescent and will soon be well.

There is now in the Birmingham and Midland Hospital for Women a most interesting case, from which Mr. Tait removed the left kidney, November 20th, through an incision in the left loin. The patient, a girl aged fifteen, first came under the care of Dr. John W. Taylor, outpatient surgeon to the Birmingham and Midland Hospital for Women, the last of July, 1883, as an out-patient, and from the report of the case while it was under his care, I will make a few extracts.

On examination he found a fluctuating tremor on the left side of the abdomen that he diagnosed as dilatation of the pelvis of the left kidney, and thinking that operative measures would probably be necessary, asked Dr. Savage to see the case with him, which he did on Aug. 2nd, agreed with him as to the advisability of opening the abdomen, and they fixed on Aug. 4th for the operation. But on Aug. 3rd, at 8 a.m., Dr. Taylor was called in great haste to see her. When he reached her home, at 9 a.m., he found her with legs drawn up, pinched and anxious face, crying out with pain, and constant vomiting. It was evident that the cyst had burst, and that there was no time to be lost, as the girl was rapidly sinking. He hastily arranged for immediate operation, and about 11 a.m. opened the abdomen in the middle line, sponged out the urine from the peritoneal cavity, and sewed the opening in the cyst to the margins of the incision. By the next morning she had considerable peritonitis, and for three days there appeared to be but little chance of her recovery, but by the sixth day she was much better, and gradually improved. As the cyst had to be drawn considerably out of position to fix it in the middle line, he was content to sew the opening in it to the abdominal wall, and did not pass a drainage-tube into the cyst. This he soon found was a mistake, for after eight or ten days hardly any urine came from the

opening, and the cyst began to refill, with corresponding aggravation of symptoms. Knowing the thinness and brittleness of the sac wall, he did not attempt to make any very forcible re-opening of the original channel, but on Aug. 18th made a second abdominal section to the outer side of the left rectus, opening the sac again; sewed the opening in the sac to the margins of the incision, and passed in a glass drainage-tube. From this point the patient steadily improved and did well for many months. She has worn the glass tube ever since, passing her urine freely through it. But after wearing the tube for months, it caused so much irritation that the sac became one great suppurating cavity. She was now removed to the Women's Hospital where she came under the care of Mr. Tait, where I first saw her. She was thin and anæmic, all the urine from the left kidney coming through the tube, and add the drain of pus, and it would be difficult to conceive a more deplorable condition to be in.

Mr. Tait now explored the sac through the opening for calculus, but was unable to detect any. It was now evident that the only means of cure was to cut off the supply of urine to this suppurating cavity by the removal of the kidney or open it and remove any calculus that might be blocking up the passage. This he did as stated above. He first opened the kidney, which appeared perfectly healthy, and examined it with his finger, but finding no calculus, he clamped it and cut it away. She is now fast recovering, no urine and but little pus is discharged from her old drainage-tube, and the sac is much diminished in size. She never had a bad symptom after the operation, and will soon be able to leave the Hospital, after seventeen months of invalid life and going through three serious operations.

Yours truly,

R. B. HALL, M.D., of Chillicothe, O.

PROGRESS IN ANTISEPTICS. — It is reported that Esmarch now uses metal operating tables at his clinic. All the instruments are said to be nickel-plated and to have metallic handles. By discarding wooden articles the great surgeon hopes to diminish the risks of septic infection, says the *St. Petersberger Med. Wochens.*, from which the foregoing is taken—*N. Y. Med. Jour.*

DONOVAN'S SOLUTION IN PNEUMONIA.

CHICAGO, Dec. —, 1884.

Editor Lancet and Clinic:

In your November 22d issue, Chapois' experience with calomel in pneumonia reminds me to give the profession my treatment.

I think his *modus operandi* of calomel in twenty-four hours the eighteenth day exceedingly doubtful! For fifteen years I have used Donovan's solution in pneumonia with the happiest effect. I begin my treatment with heroic doses as soon as I have diagnosed my case as pneumonia, and keep it up in like doses till resolution is established. I direct ten drops to be given every two hours, and have given as much as six drachms in sixty consecutive hours. If diarrhoea is produced I give ten drops of opii after each movement, or sufficient to control the bowels. I do not recall but one or two instances where ptialism has been produced. In Donovan's solution we have a tonic, alterative, and capillary stimulant.

CHAS. WHITE, M.D.

SPECIFIC TREATMENT OF TYPHOID FEVER.

Editor Lancet and Clinic:

It is said by medical writers that there is no known specific of typhoid fever. We are gravely told that "the abortive plan, by the use of calomel, is the only treatment that can be considered etiological or causal." To this statement we respectfully demur. If calomel aborts the fever in fifteen to twenty days, the bromide of potassium will do it in seven to ten days. The bromide of potassium (unlike calomel) is a medicine that is attended by no bad results, and upon which we can confidently rely. It can be given in any and all stages of the fever, first, second, third, fourth or fifth week. It makes no difference whether you see the patient on the first or last day of the fever, begin at once to administer the antidote, bromide of potassium.

In the whole metasyntic cycle of remedies for typhoid fever, bromide of potassium stands at the head. It does what no other known remedy has done—when properly administered it arrests the fever in from seven to ten days after beginning its use. If the treatment is commenced at the begin-

ning of the attack, five grain doses administered every three hours during the day only, and repeated daily, will usually be sufficient; but if in the last stage, from fifteen to forty grains will sometimes be required. In the last stage of a very severe case, when death seemed almost inevitable, we gave over two hundred grains in twenty-four hours, producing no gastric disturbance whatever; cured the patient, and in doing so, learned that we have a specific for enteric fever. The truth of this has since been verified in the treatment of ten additional cases, the fever in every case being arrested in from seven to ten days. I have practiced medicine for thirty years at Canton, Missouri, and think I know what I am talking about when I say the bromide of potassium is as much a specific for typhoid fever as the sulphate of quinia is for ague.

Yours, Truly,

Canton, Mo.

J. W. HAWKINS.

Bibliography.

PHYSIOLOGICAL PHYSICS. (1)

While the science of chemistry has found its place among the fundamentals of the ordinary medical college curriculum of this country the allied and scarcely less important science of physics has been remarkably neglected in most of our medical schools. While the student has his memory burdened with the minutia of anatomical lore which he rarely carries beyond the quiz or the final examination he is left in almost total ignorance or only learns incidentally of the laws governing the correlated forces light, heat, electricity, sound, etc. Even eminent medical authorities are apt to fall into a loose way of thinking and writing upon questions of physics as instanced in the usual explanations given of various suggestion and dropsy from regurgitative heart lesions. A few simple instructions, and experimentation in a cheap way with simple apparatus would save the ordinary practitioner much expense and vexation in handling the more complicated electric and optical apparatus which go to make up his office furniture. It is therefore with considerable satisfac-

tion that we find a work specializing the science of physics in its applications to physiology and medicine. The subject of electricity forms the most important and extensive division of the work, and treats first of the general principles of the science and subsequently of its various applications to physiological experiment. This subject is very clearly and completely treated except that some account of the principle of storage might perhaps have been added with advantage.

On page 16 the account of the action of the simple voltaic element seems a little inaccurate in stating that the hydrogen is evolved at the copper or negative element before the circuit is completed, whereas if evolved at all under such circumstances it will be given off from the zinc owing to its impurity, without any regard to the electrical arrangement.

On page 18. In explaining the necessity for amalgamating zinc the origin of local currents would seem to be due to the fact that the zinc gets honeycombed with *boles* whereas it is the unequal solubility of impure zinc which is to blame.

On page 23 there is a misprint in the equation, which is perhaps worth mentioning.

In treating of wave motion some of the terms are at times somewhat indefinite, such as "extent" of the wave instead of amplitude or wave length. Some of the text would doubtless prove rather advanced for the beginner unless supplemented by the instruction of a teacher in the laboratory as seems to be intended by the author. Many of the physical phenomena not described in the routine of text books in physics are here treated in a pleasing and clear manner.

Notwithstanding the few trifling criticisms which we have had to make we must regard this little book on the whole as an excellent step in the right direction. F.O.M.

MANUAL OF CHEMISTRY. (1)

This book is introduced for the use of pharmaceutical and medical students as a guide in their practical work. Like most

I. A guide to lectures and laboratory work for beginners in chemistry; a textbook specially adapted for students of Pharmacy and Medicine. By W. Simon, Ph.D., M.D., Professor of Chemistry and Toxicology in the College of Physicians and Surgeons, Baltimore, Md. Philadelphia: H. C. Lea's Son & Co. Cincinnati: Robert Clarke & Co.

1. By J. M'Gregor-Robertson, M.A., M.B.C.M. Muirhead Demonstrator of Physiology, and Assistant to the Professor of Physiology in the University of Glasgow.—528 pages, 12°, 219 wood engravings. H. C. Lea's Son & Co., 1884.

recent textbooks, it is divided into several parts, seven in all, which greatly facilitate the student's studies, gradually leading him to the more difficult parts. The first part treats of the fundamental properties of matter, its extension, divisibility, porosity and indestructibility. The second part contains those principles of chemistry which the author considers the fundamental principles of our science. In speaking of the third and fourth parts of non-metals and metals and their combinations, we notice that the old classification has been adhered to. The remaining parts include qualitative analysis, organic chemistry and physiological chemistry. This work, besides containing sixteen woodcuts and seven colored plates, representing fifty-six chemical reactions, is printed in large type on fine white paper, and contains 411 pages. As a student's manual the work is worthy of commendation.

H. W.

MEDICAL RECORD VISITING LIST.

—This is one of the best arranged of these useful publications, and is so well known to the profession as to need no commendation from us.

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Selections.

MEDICINE.

PROPHYLACTIC VALUE OF THE VAPORS OF THE ESSENCE OF TURPENTINE IN DIPHTHERIA.—The essence of turpentine in vapors is useful in the treatment and prophylaxis of diphtheria and of exanthematous diseases.

Dr. Vilandt (*Gaz. Médicale*) has never seen a child affected with any of these diseases, communicate them to any other person, where this proceeding has been followed. Segregation is frequently impossible; the mother may be the only nurse, and she may have to see to the wants of others, the well members of the family, and thus oscillate between one and the other. Pour 20 to 40 drops of mixture of equal parts of essence of turpentine and phenic acid in a vessel of boiling water; place it on a gentle fire, in a manner to saturate the air in the sick-room with the vapors of these two substances. It has a

good effect upon the exudation of diphtheria, but it does not exclude the use of other remedies. This remedy is extensively used in the children's hospital, by M. Bouchut.—*Medical Digest*.

DYSPEPTIC NEURASTHENIA.—The following is the substance of the remarks made on the above subject by Dr. Ewald at the third Medical Congress (at Berlin), and reported in the *Berliner Klin. Wochenschrift*:

Our attention should not be confined to the stomach, but should be directed with at least equal interest to the intestinal tract. In none of the patients suffering from the complex of symptoms embraced by the term "dyspeptic neurasthenia" (or "neurasthenic dyspepsia"), were intestinal troubles absent. These latter are not always severe, and there may be merely constipation, or diarrhea, or insufficient absorption. But they may become very prominent, so as almost to constitute a separate class, as Cherchevsky has lately shown (*Revue de Médecine*, 1884, No. 3). There is severe abdominal pain, and the abdomen is not retracted, but distended by gases (flatulent dyspepsia). The general nervous symptoms are usually more severe than in the purely gastric form. Thus in this dyspepsia both stomach and intestinal tract are together affected, but usually not in an equal degree.

The term "asthenia," introduced by Brown and adopted by Broussais, indicates a condition of weakness of an organ, which is shown at first by morbid irritability, and afterwards by lowering of its functions. Thus the term "dyspeptic neurasthenia" is better than "nervous dyspepsia," because the dyspepsia is then made a part of the general affection of the nervous system; but the latter expression is more popular.

The symptoms, of which none is special to the disease, but each of which may also occur when organic alterations are present, are mainly the following: a coated tongue, bad taste, dryness of mouth or else increase of saliva, foul breath, eructations, pyrosis, want of appetite, repugnance to food, ready satisfaction after ravenous hunger, inflation of the stomach by gases, restlessness (Kussmaul), meteorismus, etc.

Burkart has drawn attention to the fact that strong pressure in these cases in the situation of the great abdominal plexuses causes sharp pain; and he considers such

spots analogous to the "tender spots" of hysteria, inasmuch as these particular pains are only evoked by pressure, and are not to be confounded with subjective gastralgic pains. The author confirms this to some extent, but the symptom may be absent. Rosenthal mentions painful spots also along the spinal column, but these are still less constant.

Great weight has been laid on the general nervous symptoms, which may be hereditary or not, and are often very prominent. The intestinal neurosis is nearly always preceded by general (nervous) prodromata, which may also accompany it. Such are headache, toothache, weariness, a disposition to look on the dark aspect of things, an unnecessary gloominess, a saddened character of voice, etc. Weakness of memory, and inability to think collectively may go on to vertigo at times. The pulse is small and frequent, the hands and feet cold, and palpitation and dyspnoea accompany exertion. These latter symptoms may give rise to the greatest agony, as if death were impending, till eructations alter the scene.

All these symptoms are here purely nervous, and do not rest on palpable central nervous lesions, like the gastric crises of tabes dorsalis, or the gastric symptoms of diffused and localized cerebral lesions, or those occurring in chlorosis, menstrual derangements, uterine or ovarian troubles, or severe psychic excitation, as "nervous diarrhoea" or constipation. All these differ from mild gastric neurasthenia in their severity and sudden development. Richter and Leyden have enlarged on such cases.

Prof. Leube is inclined to regard so-called "nervous dyspepsia" as a local disease of the stomach, but none of the chief recent writers on the subject think so. The dyspepsia is a symptom, and not a disease; no pathological changes in the stomach have occurred, in the ordinary sense of the term. Goltz has shown how slight irritation, normally without any effect, may cause severe gastric symptoms, in spinal and cerebral lesions.

The diagnosis is not always apparent. The long course of the disease, its original manifestations, the failure of local treatment, and the recognition of other neurasthenic symptoms, are its chief elements. The pains are less localized in character, and less connected with food, than in

organic disease. Vomiting seldom occurs. The stools vary in character, and the author has not remarked the ribbon-like character of the feces so much dwelt upon by Cherchevsky.

Leube gives the "digestive experiment" as an aid in the differential diagnosis. This simply means that the stomach is empty seven hours after a meal, in health or in gastric neurasthenia, as tested by washing out. This is correct in the main but too absolute.

Leube further states that 50 cubic centimetres of a 3 per cent. solution of caustic soda, injected into an empty stomach, are completely neutralized in twelve minutes, in health. This quantity contains then 3 grammes of soda (46.3 grains), and would require about 15.4 grains of hydrochloric acid. Assuming gastric juice to contain 2 parts of acid per 1,000, we should have to suppose that 250 cubic centimetres (more than 8 ozs.) of gastric juice were secreted in twelve minutes to neutralize only the half of this. Such a quantity is out of the question, and we can only suppose (if the fluids of the stomach be found neutral after the time given) that much of the alkali has been absorbed or has passed into the intestine. This, of course, destroys the value of the experiment. The stomach pump should not be used when there is any suspicion of gastric ulcer. Violent peristaltic movements might cause perforation, apart from mechanical injury. Long observation is sometimes necessary to establish the diagnosis.

The prognosis and treatment follow of themselves. The former is uncertain, as in all neurasthenic affections. The milder cases are often the most obstinate, and *vice versa*, but in the mildest cases the affection lasts for months at the very least. The treatment must be general, all local medication is idle to the purpose. The nervous system must be strengthened and calmed. The mind and body must be occupied, and both must be fed. Gymnastic movements or abundant exercise, and hydrotherapeutic measures, are valuable. The diet should be simple and sufficient. Trousseau said that the best *régime*, and the only one suitable, was that which the patient from his own experience could support best. It should, however, be un-irritating. Sedatives are useful, especially potassium bromide in large doses, and, as tonics, quinine and arsenic, especially the

latter. The English give belladonna in large doses, 0.05 to 0.1 gramme ($\frac{3}{4}$ grain to $1\frac{1}{2}$ grains), even up to 7.7 grains in a day, to overcome obstinate constipation depending on spasmodic contraction of the intestinal muscular fibres. Small doses should always be given first, to ascertain how the patient bears the drug. There are two drugs of especial efficacy, chloral in gastric hyperæsthesia, and opium when the irritation is chiefly intestinal. The former has a slightly anti-fermentative action, besides its sedative influence; and opium acts not only on the distension and flatulence, but often in an aperient manner also. "Wind" is a potent cause of distress, and the constipation is often due to an obstinate contraction of the intestinal muscles. This latter is often easily overcome by opium, together with some mild vegetable aperient such as rhubarb, castor oil, or tamarinds. Salines are to be altogether deprecated. They only irritate the intestine and increase the discomfort, and thus a vicious circle is set up.

As Gerhardt says of angio-neuroses; "the physician, and not the drugs, must heal the disease."

In conclusion, Prof. Stiller, of Budapest, has just written a monograph thoroughly confirmatory of all the above.—*London Medical Record*.

REDUCED IRON IN THE TREATMENT OF ANÆMIA. By John W. Martin, M.D., Sheffield, in *Med. Press*.

For some time past, having used this preparation of iron, I have been greatly pleased with the results obtained. I doubt if it is as widely used as it ought to be. It certainly justifies the claims made for it in "Squires Companion in the British Pharmacopœia" in which it is said to be "one of the most powerful remedies in restoring the condition of the blood in all anæmic states of the system." It is chiefly employed in chlorosis, amenorrhœa, chorea and enlargement of the spleen following intermittent fever. With the exception of those cases due to nursing as a cause of impoverishment of the blood, the cases in which I have found this form of iron most serviceable were those of young girls and women of chlorotic tendencies, and in women who have reached the change of life, and in whom, beyond an unexplainable failure in the powers of nutrition, no organic disease is discoverable. The change for the better

that has followed the administration of the drug in these cases has in many instances been so rapid and so entirely satisfactory as to seem marvelous. The benefit has declared itself within 48 hours, and the patients have steadily progressed to convalescence without change of treatment. Patients in whom there may exist a tendency to constipation of the bowels must have this tendency corrected, and in my experience this may best be done by ordering the following mixture:

R. Mag. sulph.,	℥j.
Mag. carb.,	℥ij.
Tr. nucis vom.,	mxl.
Sp. am. aromat.,	℥ij.
Tr. cardamoni,	℥ij.
Aquæ menth. pip. ad	℥vij.
M. ℥j. bis die.	

In mild cases I order a small piece of ginger to be infused over night in a tumbler of boiling water, and when prepared, two teaspoonfuls of salts (Epsom) to be dissolved in the infusion, the whole to be taken the first thing in the morning. These measures usually prove most successful in regulating the condition of the bowels. The following is the form of pill I usually prescribe, varying, of course, the ingredients and strength of their dosage as circumstances may demand.

R. Fer. redact.,	grs. iiss.
Ext. nucis vom.,	gr. $\frac{1}{8}$.
Ext. quassia,	q. s.
M. Ft. pil.,	mitte xii.

Sig.: "One to be taken three times a day at meal times."

In some cases, especially where nerve symptoms predominate, I find the combination of the phosphide of zinc in 1-12th grain doses most useful. There are few things in life pleasanter than to see the patient to whom we are called, and who at our first visit presents a blanched appearance of the skin, lips, gums and tongue, looks languid and tired, complains of headache, palpitation and dyspnœa, on exertion, lassitude anorexia, and, in the case of a woman, of painful and scanty menstruation, with more or less leucorrhœa, under the effects of the treatment proposed, rapidly presenting a very altered condition of vitality, a condition the very antithesis of that just described. The following cases illustrate the benefits of this method of treatment:

CASE 1. Miss B., æt^e 19, no occupation. Notes of case taken November 5, 1884.

With the exception of whooping-cough in infancy and measles when 12 years of age, she had always been considered fairly strong until about two years previous to the date of notes. Since then she had suffered frequently from severe headaches, chiefly affecting the frontal region and vertex, and pain being of a throbbing character. During the past four months, her friends have remarked upon her rapid loss of color, and for the past months she has lost her appetite and has experienced a most marked failure in her strength. Formerly she was able to walk long distances without fatigue, now she is easily tired, and facing an incline of any sort, a hill, or going upstairs, induces dyspnœa and palpitations. At the time of first seeing her, no trace of color could be noticed in her cheeks, lips, gums or tongue. She presented a blanched appearance. Menstruation, always scanty, had, since the failure of her health, become scantier than ever, and painful; it had also become irregular. When seen, the period was on, only two weeks having elapsed between it and the preceeding one; the time before came on after an interval of six weeks. Hæmic murmurs were heard over the heart, and along the great vessels of the neck. I could not detect any organic disease in the lungs or heart. There were no special symptoms connected with the liver. The bowels were constipated, acting only under the influence of aperient pills. She was passing a large quantity of water, but not in proportion to the quantity of water she drank, thirst being a strong feature in her case. No sugar or albumen discoverable on examining the urine. Between the monthly periods she had noticed slight leucorrhœal discharge. Her whole condition gave the impression of one suffering from the effects of profound anæmia, and it seemed hopeless that any rapid changes for the better could be effected. Since the 5th of November she has been steadily sticking to the treatment already described. Beneficial effects showed themselves almost immediately, and on the 22d of November, 1884, she declared herself as feeling quite right again. She certainly did not look the same person. Her cheeks and lips presented a good red color pleasant to look at. All traces of languor and listlessness had disappeared. She declared she felt equal to any exertion, and had quite lost the dyspnœa and palpitations mentioned above. Her appetite was good

and she ate her meals with relish. She is no longer so thirsty as she has been. The leucorrhœal discharge has diminished, and her bowels are regular in their action. In fact, the improvement in her condition of health is all that could be desired.

CASE 2. A. N., a girl æt. 16., employed in a razor maker's warehouse, came under observation July 7, 1884. She had been fairly strong and healthy up to last Christmas. Since then her strength has been failing, and her appearance presented an ever increasing condition of anæmia, the lips, gums, tongue and conjunctiva at the time of my seeing her being blanched and devoid of color. Digestion had become increasingly difficult. She complained of a sense of weight after food, and vomited frequently, especially after dinner, the ejected matters being very sour and disagreeable. The tongue was furred and her bowels were obstinately confined. There was no cough, and no symptoms, physical or otherwise, of lung affection. She complained of pain over the upper portion of the sternum, most marked over the right edge of the sternum, at the right intercostal space. The area of the heart's dulness was normal, its action was excited and "humming," but there was no distinct murmur, the normal sounds were weak. Loud blood murmurs were heard in the course of the large vessels of the neck. She was accustomed to sleep well. Menstruation recurs every three weeks, sufficient in quantity, painlessly, but much paler than it ought to be. No leucorrhœal discharge had been noticed. She was ordered the aperient mixture to be taken night and morning, and the reduced iron in pill as follows:

R. Fer. redact., gr. j.
Ext. quassia, grs. iij.
M. Ft. pil. mitte xij.

Sig.: "One three times a day after meals."

July 11th. Slight improvement. Bowels moved daily, vomiting diminished. Urine examined, no sugar or albumen; a phosphatic deposit thrown down in the application of heat.

18th. Much improved, lips and cheeks commencing to show color. Headaches generally diminished in intensity. Appetite improved, sickness gone.

August 6th. Improvement continued. The aperient mixture was ordered to be taken but once a day—early morning.

13th. Menstrual discharge improved in color. Heart's action much stronger and steadier; the excited action and "humming noise" disappeared. Normal sounds regular and distinct. Bruit in the vessels of the neck becoming indistinct. General appearance and complexion almost those of perfect health. Dyspeptic symptoms quite gone. There was still want of appetite, and the bowels required the mixture to enable them to act.

28th. The want of desire for food continuing, although in every other respect so much better, I changed the treatment to:

R. Potass. bicarb.,	3j.
Tr. nucis vom.,	3j.
Tr. chinchonæ flav.,	ziss.
Sp. am. aromat.,	ziss.
Aquæ ad.,	3viiij.

M. 3j. to be taken three times a day, an hour before meals.

This she continued until September 16th. when she was discharged from treatment, cured, and presenting a perfect picture of health.

This girl's elder sister, æt. 22, came under my observation, with much the same train of symptoms, but, in addition, a leucorrhœal discharge which had been troublesome for twelve months, and some suspicious pain, tenderness, heart respirations, and crepitation in the apex of the left lung, accompanied by a dry and troublesome cough. The same course of treatment was adopted, a strong counter-irritant liniment being applied to the affected portion of the chest. At the end of six weeks she was so much improved, treatment ceased, and she passed from under my care.

In the several cases of anæmias the result of over-lactation, similar good results were obtained, the improvement in each case being rapid and satisfactory.

With reduced iron the furred tongue and disordered digestion seems to be no bar to its administration. In all the cases in which I have given it under these conditions beneficial results have been obtained. I must not be misunderstood, however, or have it thought that I look upon the remedy as a panacea for every anæmic case we are called upon to treat. In one or two cases I have failed to obtain good results. I only claim for it that it is a good drug which must not be lost sight of, and which deserves to be more frequently resorted to than it appears to be.

SURGERY.

TREPHINING THE FRONTAL SINUSES FOR CATARRHAL DISEASES.—Although disease of the frontal sinuses is by no means common, yet the interest attaching to it is not solely theoretical, for cases amenable to treatment are frequent enough to be met with by most surgeons of experience.

From my own observation I would desire specially to call attention to *catarrhal disease of the mucous membrane lining these cavities*, accompanied as it is by symptoms that distinctly indicate its existence, are so severe as to call urgently for a remedy, and are curable by trephining.

The cases that I have met with have generally, if the anamnesis could be relied upon, had no special connection with catarrh of the schneiderian membrane, either in the form of acute coryza, or in that of chronic inflammation. On the contrary, there has been no history of any special attack from which the onset of the symptoms could be observed to date, nor at the time when the patients came under my notice was there any thickening or disease about the anterior nares, the septum, or the turbinated bones, or any granular or vascular changes about the isthmus faucium, tonsils, posterior wall of the palate, naso-pharyngeal space, eustachian tubes or posterior nares.

The patients have usually been unable to fix very exactly the onset of the malady, and have merely perceived that from a certain date they began, without well marked cause, to suffer from uneasiness and pain in the situation of the frontal sinuses. This "headache at the root of the nose" varied in degree, sometimes reaching a considerable intensity, at others again improved, but always more or less perceptible. These were all the subjective signs. Along with them occurred a discharge of pus from the nostrils, not abundant, and not continual, an occasional escape of smallish quantities of yellow, creamy pus.

On examining the interior of the nostrils everything was found normal, no congestion was present, and discharge was rarely visible, and, if present, was seen at the anterior part of the roof of the cavity.

No swelling or discoloration was perceptible over the situation of the frontal sinuses in the brow, but firm pressure with the fingers elicited tenderness there, which

was always found to exist, even when the symptoms had otherwise temporarily abated. Percussion with the hammer and pleximeter gave variable results, tenderness being absent if percussion were made elsewhere than exactly over the sinuses, and not always present even when made directly upon them; still percussion usually brought out pain, and pressure if firm enough always showed tenderness over the frontal sinuses that could nowhere else be elicited.

The discomfort which the patients complained of was considerable. The consciousness of continual distress, more annoying from its constant presence than from its intensity, was sufficient to render them miserable, and to unfit them for ordinary duties. They had usually tried many remedies, none of which had benefited them, and when I in my turn had convinced myself that iodide of potassium, Weber's douche of various solutions, such as sea salt, with or without permanganate of potash, alum, zinc sulphate and chloride, and creasote, were no more potent than those already used, they always gladly embraced the proposal of operative interference.

This, by trephining the frontal sinuses, I was, in the absence of experience regarding it, in no hurry to press upon such patients, and, in the case of my two hospital patients, I dismissed them from treatment after explaining that an operation was the only further means of treatment I knew of, so that they might, in the leisure of their home surroundings, digest the matter, and return if their sufferings really led them to select so severe a cure.

They both returned, and having satisfied myself that the disease was still present, I operated in the manner to be described.

But first, a word as to the rationale of the disease, and the design of the operation. The symptoms above described can be due to one cause only, viz., *retention*. They are such as we find in empyema of the antrum, as well as in retention elsewhere, where the exit for the discharge is imperfect, and they can hardly be explained by any other morbid mechanism of which we are cognizant. Retention of products of inflammation being presumed to be the essence of the disease, a cure can be hoped for by securing a free exit, by curing the catarrh, or by adopting both

of these indications. There is no possibility of introducing a probe into the frontal sinuses from below, at least I have always failed in my endeavors to do so, therefore the only expedient is to open the frontal sinuses from the brow, ensure the patency of the opening into the nose, and apply such measures as seem called for to the mucous membrane lining the interior of the sinuses.

In my first case, a crucial incision, one limb horizontal corresponding to the horizontal wrinkles on the brow, and the other vertical corresponding with the vertical wrinkles, was used, but in every subsequent case a single vertical incision, an inch and a half in length, commencing at the root of the nose and extending upwards over the nasal eminence of the frontal bone in the central line of the brow, was found quite sufficient to give the freest access to the cavities, and the cicatrix was naturally less visible, sometimes scarcely detectable. The incision carried down to the bone divides the periosteum; this is pushed back by a subperiosteal elevator until the bone is sufficiently bared over the most prominent part of the glabella for a trephine crown of the size of a sixpenny piece to be applied in the central line. It is applied according to the usual rules, and the saw-line is deepened until the trephine has entered a cavity, which the point of a quill shows to lie at the lower part of the circle, the upper part not yet having completely divided the bone. The trephine is now removed, and the disk of bone extracted, if this be possible, by the trephine elevating forceps, or the "tire fond," assisted by the elevator, which seeks to loosen the disk. If the sinuses be large, the disk is readily removed, if small it cannot be so extracted. In this latter case a small chisel, bevelled on one side, is resorted to, and by means of it and the mallet the disk is removed piecemeal until the sinuses are laid bare in the bottom of the wound, occupying usually only its lower half. The bleeding is slight, and not sufficient to obscure the steps of the operation.

The object that now meets the eye is the livid mucous membrane lining the sinuses. It is opened by a scalpel and forceps, if the trephine should not already have effected this, and is found to consist of the granular thickened mucosa containing mucus, pus, or muco-pus. In two cases it

was so granular that it might be termed polypoid, being lined with soft gelatinous outgrowths exactly like the common nasal mucous polypi, of the size of split peas or a little less.

The muco-pus being sponged away, the next step is to examine and dilate the orifice leading to the nose. It is easily found by pushing a probe downwards, and if too small may be enlarged by thrusting down a trocar or any stout instrument. A drainage tube of the size of a crowquill or even larger is guided down so as to emerge at the nostrils, while its upper end is left in the cavity. In the three cases I have so operated on, however, I have not trusted to drainage alone, but have removed with a Volkmann's sharp spoon or curette the diseased mucous membrane, and have cauterized any parts that remained by swabbing out the sinuses with a strong solution of chloride of zinc. The drain was then laid in, its upper end lying in the sinuses and not emerging on the brow. In the cases so treated the communication between the two sides was so free that one drain served for both sinuses, but if it were otherwise a separate drain might be employed for each. The skin wound is then closed over the sinuses, and unites by first intention; only one case, that of a patient of Dr. Urquhart of Aberdeen, having a small fistula that did not close for some time. There is no retraction of the skin into the sinuses, so as to cause deformity; the brow remains of normal contour, a softness and yielding to pressure alone marking the spot where the operation had taken place. The tube has been removed in a week, and in no case has the result admitted of doubt. The pain has been at once relieved and has not returned. In the patient mentioned above, and in another sent me by Dr. Butter, of Forfar, the relief was perfect some considerable time after I lost sight of them; in a third case where the polypi were very large and white, almost sarcomatous, I was not able to learn how the patient fared after dismissal.—*The Medical Chronicle*.

OPENING OF THE MASTOID PROCESS.—Dr. Schwartze, of Halle, at the International Medical Congress, discussed the operation of opening the mastoid cells, and gave the following as indications for operative interference:

1. In acute inflammation of the mastoid

apophysis with retention of pus in the bony cells, if, after the application of antiphlogistics and Wilde's incision, the œdematous swelling, the pain and the fever have not subsided.

2. In chronic inflammation of the apophysis, with subcutaneous or subperiosteal abscess, or mastoid fistula, and in this case even when symptoms do not exist of a nature to compromise life.

3. When, the mastoid being normal externally, there exists a cholesteatoma or a purulent collection in the middle ear which cannot be removed by ordinary methods, and when serious symptoms arise, or if an abscess from congestion is formed in the posterior wall of the auditory canal.

4. The external surface being healthy, and in the absence of purulent collection in the middle ear, if the apophysis is the site or point of departure of headaches intolerable and persisting for a long time, against which other remedies have been employed without effect.

The operation is of doubtful expediency in chronic, incurable otitis media, where signs of mastoid inflammation are wanting, and there is no retention of pus in the middle ear. The operation is contraindicated where there is certainty of metastatic abscesses being already formed, or in the presence of a secondary meningitis, or of an abscess of the brain.

Conclusions:—1. The operative opening of the mastoid apophysis is a valuable remedy against some of the gravest and most dangerous diseases of the ear.

2. The danger of the operation should be considered as light in comparison with that of the disease which it is intended to relieve. — *Annales des Maladies de l'Oreille*, etc.—*Medical Times*.

MISCELLANY.

CIVILIZATION AND THE TEETH.—If the fully-evolved man of the future is to be, as has been prophesied, a hairless individual, he is only too likely to be—excepting his indebtedness to the manufacturing dentist—a toothless mortal also; for which result a persistent preference for ornament over use must be mainly held responsible.

If Helen of Troy possessed teeth as good as those of her Britannic contemporaries, she had probably as square a jaw, and a mouth of equally capable dimensions. One item in the civilized ideal of female beauty,

the rose-bud mouth to-wit, is undoubtedly accountable for a great deal of the crowding and consequent injury of the teeth especially observable in patients of the upper and middle classes, while the frequent decay of the back teeth even before the marriageable age is reached, and the persistence of the visible front teeth till shortly after that age would seem to show that natural selection has some of the infirmities not usually associated with abstractions, and that "out of sight" is even for it "out of mind."

Certain of the luxuries of modern life, and the operation of some of its so-called duties, aid in completing that destructive effect against which, curiously enough, another outcome of the civilizing process—inherited gout—alone seems able to oppose its recognized attributes of large, regular, strong, and well-enameled teeth.

In the case of the negroes of the Southern States of America, a remarkable dental degeneration seems to have attended the changes in food and habits which followed the abolition of slavery. Formerly the slaves lived chiefly on corn-meal and meat; at breakfast, coffee, and with dinner, vegetables were taken in addition. Occasionally wheat flour took the place of corn (maize), but it was ground on the plantation and not bolted. This food served at regular hours, and combined with plenty of fresh air, exercise, and sleep, made the teeth strong and hard. Now the negroes eat fine wheat-flour bread, spend a large part of their wages in sweet-meats, eat at irregular times, and sleep too little.

The other side of the story is presented in a paper recently published by Dr. Kirk, who has under his care, in the Pennsylvania Institute for Deaf and Dumb, the teeth of some four hundred children. By the time that the children have been a year in the institution an entire change is noticed in the character of their teeth; they have become so hard that the instruments must be retempered in order to cut the dentine in preparing the cavities for filling; they become more firmly implanted in their sockets, and extraction is thus rendered difficult; several cases of the spontaneous arrest of caries, and of the new formation of dentine have been observed. These favorable changes are attributed to the dietary, which consists largely of various preparations rich in bone-forming materials, such as maize, oats, and wheat, from which

the layer just beneath the siliceous coating has not been removed in milling, together with a liberal supply of milk and a limited amount of sugar.

Another important but only lately recognized cause of dental decay, is the undue exaction of nervous energy—probably often combined with insufficient or improper alimentation.

Recent observations have shown that carious teeth are common in modern schools in proportion to the educational standard adopted; and that the children in the higher forms have—out of all proportion to their more advanced age—worse teeth than those below them; while oaries had not infrequently been noticed to commence suddenly, or to extend rapidly, during the period of examination strain. The greater work imposed upon the cerebral and other nervous centres is supposed to divert a portion of the phosphates and other mineral constituents which ought, by rights, to be devoted to the nourishment and growth of the dental structures; and it is not improbable that the secretion of the buccal glands and mucous membrane is modified under the influence of mental exertion to the deterioration of the teeth.—*Medical Times.*

• NAIRNE ON STATISTICS.—Do not be deterred by "statistics" from doing what you conceive to be your duty—statistics is a kind of "bogle" set up by the disingenuous, mostly as a signal mark of their own ability, and a dreadful "scare-crow" to others. Distrust them; they may mean anything, they may mean a selection of picked cases, of easy cases, of cases that would have got better under almost anyone's hands, of young, healthy, vigorous patients; they may be an indication certainly of dexterity on the part of the operator, gained by experience, or they may be a freak, a run of successful cases with no special merit to the operator. It is, indeed, high time that this statistical curse were abolished, if it cannot be put on a proper basis, and the miserable quibblings about one man's work, in comparison with another's, brought to a final termination. The justification of any operation is its necessity, and not the numerical recoveries from its performance; but we are all inclined to shirk operation in desperate and unlikely cases when we can, in case we are blamed for hurrying on a fatal termina-

ation, or for fear that the patient die under our hands, or immediately after.—*Glasgow Medical Journal*, June, 1884.

The January number of the *North American Review* is an excellent one. It presents no very famous names among its contributors, but it offers a wide variety of unusually readable articles. We are now so safely over the crisis of the presidential election that men of all parties can consider calmly Bishop Huntington's essay on "Vituperation in Politics," and it is to be hoped that what they learn from it will not be forgotten four year's hence. But the article that the literary reader will first turn to is Frederick Harrison's brilliant and incisive discussion on "Froude's Life of Carlyle," while the religious or philosophical reader will find in Courtney's "Socrates, Buddha and Christ," specific statements and quotations of those parallel doctrines that are so often vaguely alluded to. For the scientific reader, Mr. Proctor discusses learnedly "Herschel's Star Surveys," and Prof. Le Conte presents and explains some curious facts in relation to the "Evidence of the Senses." Mr. Mullhall's paper on "The Increase of Wealth," is a suc-

cessful endeavor to render large masses of figures popularly intelligible.

REGULATIONS GOVERNING THE HEIGHT OF HOUSES.—The number of dwelling houses in Paris is about 90,000. The area of the whole city is twenty-five square miles, and the population over 2,000,000. A recent measure of the Council d'Etat ordains that henceforward no flats shall be less than eight feet high; that in street twenty-five feet wide the height of the houses must not exceed forty feet; in streets between twenty-five and thirty-two feet wide the height must not exceed fifty feet; in streets between thirty-two and sixty-five feet wide the height must not exceed sixty feet; in streets above sixty-five feet wide the height must not exceed sixty-five feet, and no buildings are to have more than seven stories, all included.—*The Sanitarian*.

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RIDGE'S FOOD

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Constitutional incapacity and the follies of fashion combine to deprive a great number of infants of their natural sustenance. The most obvious resource in such cases would seem to be a hired nurse; but the risks and inconveniences of this method are so well understood by the profession that an eminent member of it does not scruple to say: "I would never commit a child of my own or of others to a wet nurse, except under very exceptional circumstances." It is clear, therefore, that some artificial substitute for mother's milk is imperatively needed. Of these there are now many kinds seeking public patronage, and it is in free competition with them that Ridge's Food has established its superiority.

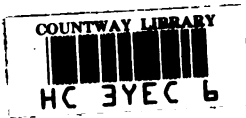
The proprietors of this preparation claim that in a much higher degree than other cereal foods (not excepting the pretentious imitations of Liebig's formula) it contains the nitrogenous elements and phosphates, in which the best wheat is so rich, together with a substance called by a French chemist Celine, which acts as a solvent or gluten in the presence of starch, dextrine, and glucose, exactly as pepsine acts on the animal fibre.

Theoretical objections have been made to the presence of some starch in this preparation, as an indigestible and

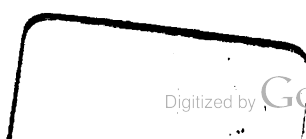
irritating ingredient in the case of infants, owing to the absence of ptyaline from their saliva. On the other hand Bouchardat and Sandras have shown conclusively that starch, which escapes transformation in the stomach, is powerfully acted upon by the pancreatic fluid, by which it is converted into sugar in the intestines.

But the crucial test is found, after all, in practical experience, to the results of which all speculative views must defer. Ridge's Food has been before the public thirty years, with a constantly growing reputation, a demand throughout Great Britain and her colonies, as well as in the United States. The collective testimony of a vast number of cases goes to show the bland, nutritive and easily digestible character of this preparation. One of the leading firms of druggists in the West, whose share of the Food are very large, writes thus: "Its smooth and satisfying properties are so marked as often to call customers to inquire if it does not contain some opiate, while a member of the Royal College of Physicians, London, speaking from experience with it, in infantile cases, commends it as 'a very valuable preparation especially in cases where the digestive powers are unusually feeble.'"

Where a trial of RIDGE'S FOOD is so easy and free from risk, the proprietors deem superfluous to parade a long list of testimonials. They will gladly forward samples for the purpose to physicians as yet unacquainted with its merits. Send also for pamphlets.



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